

CHALLENGES AND DEVELOPMENT OPPORTUNITIES OF GLOBAL TEAM LEARNING PROJECTS

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Abstract

Drawing on a thematic analysis of post-project self-reflection feedback from X-Culture participants, the paper highlights crucial lessons learned, performance disparities, and actionable recommendations to improve pedagogical design, thereby enhancing cross-cultural cooperation readiness in global online team learning. Learners in the global action learning project teams that had culturally diverse membership developed reports for enterprises interested in choosing and entering new export markets. In their post-project written reflections, students stressed several competencies for successful action learning in global online team settings. The most frequently mentioned competencies included mastering effective cross-cultural communication, adapting to diverse styles and expectations, and developing time management and scheduling skills across multiple time zones. Other vital takeaways include effective teamwork and collaboration, the emergence of informal leadership in virtual teams, and the need for adaptability when dealing with technical constraints. The paper highlights the pedagogic challenges of applying self-managing online project teams.

Keywords: *Action learning, cross-cultural learning, social skills, online teams.*

1. Introduction

Earlier discourse at END conferences has focused on the shift toward online and hybrid education models, with university-level online team projects emerging as a crucial means of fostering collaboration and developing 21st-century skills in engineering studies (Yeang et al., 2025). However, business students are even more in need of international online team collaboration to understand export markets. Implementation of digital learning communities promotes collaborative learning and peer mentorship (Adhikari et al., 2025). Students who study international business can develop their social and cross-cultural competencies, combined with knowledge of potential export markets, through global online learning communities such as X-culture (<https://x-culture.org/>). Participation in X-Culture global project teams requires cross-cultural learning and readiness for online project work. It may mean, for some students, leaving their comfort zone to engage, for the first time, in online action learning with team members they have not met before and cannot choose. In X-Culture, teams are created based on the diversity of nations within each team. International organizers appoint no team leaders, and teams must exercise a high degree of self-management when choosing an enterprise challenge for their project work, selecting a new export market, and preparing an action plan to enter this foreign market. That raises the research question: What are the learning outcomes and challenges in X-Culture projects for Estonian business students? This research aims to enhance cross-cultural cooperation readiness for global online team projects, with a view to future employment and entrepreneurship opportunities for students from a small open economy.

2. Conceptual foundations

Collaborative learning focuses on knowledge co-creation (Vuopala et al., 2019). Combining digital and intercultural competencies in digital teamwork is an essential learning need for success in the changing World (Maak, 2020). Online project teams are characterised by geographical distance between members, a common purpose, asynchronous and/or synchronous online communication tools, and knowledge-sharing practices, negotiated social structures, interdependence, and opportunities to bring together team members from different organisations (Charteris, Berman & Page, 2021). The effectiveness of diverse workgroups in face-to-face settings has been extensively studied for many years (Stahl et al., 2021). Still, less research has focused on multinational teamwork in an online environment. Research findings have been conflicting:

some researchers have found a positive relationship between diversity and team performance, while others have found a negative correlation (Han & Beyerlein, 2016). Developing students' critical and reflective thinking skills has become essential in recent years for preparing learners to make better decisions using artificial intelligence tools (Bell & Bell, 2023). In projects to assist enterprises in entering export markets, AI tools should be used in combination with insider information from those markets. Educators at business schools should support learners by applying culturally inclusive educational technologies (Akinrinola et al., 2020), and projects in global, diverse online teams are one way to use these technologies to understand different cultures and foster further international cooperation. Inclusive learning must take into account the digital divide, as students in developing countries often have unequal access to digital technology and skills (Peña Estrada et al., 2025).

The global X-Culture consortium has, since 2010, involved 110,000 learners in 20,000 global teams from 70 countries (Taras, 2025). X-Culture organisers allocate students to virtual online teams, ensuring each team reflects geographical and cultural diversity. Students must agree within their team on the international business opportunity challenge they choose to solve together, working online for 2.5 months. Students must pass the pre-test to demonstrate their knowledge of online communication, knowledge-sharing tools, and X-Culture rules. Online team projects focus on international market expansion strategies, which typically involve conducting comparative market research, analyzing international competitors, developing marketing campaigns, recruiting personnel, managing logistics, and other essential aspects of international business growth. Creativity in X-Culture is needed to identify new global business opportunities, align students' knowledge-sharing styles across cultures, and find the best online collaboration tools, including social media applications, when team members never meet in person during their project work. X-Culture team reports are graded by lecturers representing all universities where team members study.

3. Research design

Our earlier research on X-Culture teams that used data from X-Culture international data involving 2992 business students working in 596 virtual teams demonstrated that teams which have more task conflicts during their first weeks of teamwork when they have to conduct industry analysis and choose concepts for assessing the international competitiveness of the project enterprise and tools for comparing foreign markets present at the end of their project better reports than teams, where team members do not recognise and address such conflicts (Elenurm & Fabritius, 2023).

Our present research is based on the feedback from 230 post-project reflective reports of Estonian Business School students who participated in X-Culture global teams as the main assignment of their international business course. Students shared their challenges and lessons learned, along with suggestions for improving online collaborative learning environments. Thematic analysis of their self-reflections was conducted. The thematic analysis results were compared with the average project report grades that teams in which students were involved received from graders representing the universities of their team members.

4. Results

The thematic analysis findings are presented in two tables: Lessons learnt from the online teamwork experience; Comparison between high-achieving and average or below-average students' reflections.

Table 1 highlights the ten most frequently mentioned lessons learnt that students identified as key takeaways from their participation in international online teamwork projects. These lessons involve skills in cross-cultural communication, time management, collaboration, leadership, and adaptability. The number of mentions indicates how many students addressed each theme in their written reflections. The highest number of students stressed effective cross-cultural communication as their main lesson learnt. In their post-project reflections, they linked cultural differences to different communication styles, including rational reasoning and emotional responses, when discussing project tasks and the division of labour via online communication channels. Time zone differences were pointed out, especially when communicating with students in the USA and South America. Skills for building trust without face-to-face meetings were identified as a lesson learnt, especially for teamwork and project collaboration, especially for sharing project work responsibilities. Several students stated that their lesson learnt was how to emerge as an informal leader and motivate other team members for project work. Some students stated that the lack of leadership was the main challenge in their global online teamwork. Technical constraints of using IT tools were mainly related to team members from developing countries.

Table 1. Frequent lessons learnt from global project work based on post-project self-reflection reports.

Lesson Learnt	Explanation	Mentions
Effective Cross-Cultural Communication	Understanding and adapting to different communication styles, languages, and cultural expectations in international teams.	30
Time Management and Scheduling	Managing project tasks and meetings effectively across multiple time zones with varying availability.	28
Teamwork and Collaboration	Working effectively in diverse teams, often without face-to-face meetings, by building trust and sharing responsibilities.	26
Leadership in Virtual Teams	Emergence of informal leadership roles to coordinate tasks, motivate members, and ensure project completion.	24
Adaptability and Flexibility	Adjusting to unexpected challenges, differing work habits, and technical constraints.	22
Conflict Resolution and Diplomacy	Resolving disputes and managing disagreements constructively to maintain team harmony.	21
Use of Digital Collaboration Tools	Using tools like WhatsApp, Google Docs, Zoom, and Doodle to coordinate and share work.	20
Responsibility and Accountability	Taking ownership of assigned tasks and ensuring reliability within a distributed team.	18
Importance of Early Planning	Starting early and setting clear goals and timelines to reduce last-minute stress and miscommunication.	17
Value of Diverse Perspectives	Appreciating how different backgrounds contribute to richer discussions and better problem-solving.	15

Table 2 highlights differences in post-project reflections between students in teams that received above-average project grades and those in other teams.

Table 2. Reflections of above-average grade compared to average/below-average grade students.

Difference Area	Above Average Students	Average/Below Students
Leadership Emergence	Proactively assumed leadership roles and delegated tasks clearly.	Less initiative in leadership; often lacked clear role distribution.
Communication Practices	Used multiple channels (WhatsApp, Zoom, Google Docs); emphasized clarity and frequency.	Often faced delays or miscommunication due to irregular updates and limited tools.
Handling of Conflicts and Free Riding	Confronted issues early, redistributed tasks, or corrected teammates' work.	Frequently tolerated passive members; conflicts were often left unresolved.
Commitment and Motivation	Expressed strong commitment; went beyond assigned roles to ensure quality.	Motivation varied; some noted low engagement due to external workloads or disinterest.
Reflection Depth and Learning Attitude	Provided in-depth self-reflection and strategic learning outcomes.	Reflections were more descriptive than analytical, focusing primarily on challenges with the report format.

Comparative analysis of student reflections revealed significant differences between students with above-average project report grades and those with average/below-average grades. High-performing students proactively assumed leadership roles, utilized multiple communication channels (e.g., WhatsApp, Zoom, but also some project management tools), and consistently confronted free-riding or conflicts early.

In contrast, lower performers often tolerated passive team dynamics, experienced delays due to irregular communication, and provided more descriptive than analytical post-project reflections. Low-performing team members tended to reflect more on technical or procedural barriers (e.g., tool unfamiliarity, miscommunication). In contrast, high-performing team members reflected more strategically (e.g., on group norms, role clarity, and feedback mechanisms). Students in low-performing teams also often complained that their team members could not devote enough time to X-Culture as they had competing learning assignments. Group discussions based on post-project reports revealed that many students, in their daily lives, often prefer messaging apps that assume real-time chat and rapid, short responses. Such a habit creates tension among team members in different time zones. Students should be more ready to use project management tools and understand the role of asynchronous communication when discussing report sections, where pre-reading and critical thinking are essential. Relying on synchronous communication tools diminishes focus on analysis and can lead to personal conflicts resulting from rapid emotional responses to other team members.

To maximize the potential for skills development in projects, students proposed practical improvements to instructional design. The top recommendations prioritize structural clarity and support, emphasizing the need for more explicit initial instructions and for facilitating early team-building activities. Some students suggested that instructors should assign online team leaders and prescribe online communication tools for use during the project work.

5. Discussion

In line with studies such as Mason et al. (2025), the post-project reflections revealed that cultural diversity functioned as a double-edged sword when participants had to open their cultural or academic "silos". Students reported both lessons learnt and challenges. Those in higher-performing teams highlighted how diversity contributed to creativity and broader perspectives on internationalization strategy. In contrast, others struggled more with conflicting expectations, language barriers, and discomfort with addressing conflicts stemming from ambiguity in team leadership and differing preferences for online communication tools. Our results partly support the conclusions of Taras (2025) about the importance of informal communication and competing project commitments as online global project work challenges. However, in the Estonian context, time zone differences and differences in online communication habits regarding synchronous messaging preferences were also seen as challenges, especially when communicating with students in the USA and South American countries.

Some students suggested that instructors should assign international team leaders to enhance coordination and prescribe unified communication platforms to reduce misunderstandings and improve team alignment in online environments. However, implementing such suggestions would diminish opportunities to learn self-regulation in global online teams.

6. Conclusions

In the era of new online communication tools and artificial intelligence applications, educators face the challenge of increasing students' readiness for action-learning processes in which learners must leave their comfort zones and exercise team autonomy in online, cross-cultural project work collaboration, communication, and critical thinking. The key lessons learnt for best performers were self-organizational skills and greater intercultural awareness, particularly regarding differences in work styles, values, and communication norms. Readiness to adapt to the pre-knowledge and communication styles of team members from distant countries will help discover new international business and entrepreneurship opportunities in the changing geopolitical landscape. Such readiness is especially valuable for business students in small open economies. Educators can prepare students for online global projects by introducing them to best practices for self-managed team formation and project management tools to organize collaboration among team members representing different cultures and time zones before the project starts.

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