

Article

Academic projects on SDGs and intercultural competence development in higher education

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Abstract: Globalization and increasing cultural interconnectedness have highlighted the importance of fostering intercultural collaboration and global citizenship in higher education. This article explores how academic projects oriented to the Sustainable Development Goals (SDGs) facilitate the development of intercultural competencies and a greater understanding of global citizenship among students. A quantitative approach is used with a sample of 100 students in São Paulo who participated in collaborative projects related to the SDGs. The research, supported by Kolb's experiential learning theory and Deardorff's intercultural competence approach, highlights how participation in these projects enriches students' perception of global citizenship and fosters practical intercultural skills. The results show a positive assessment of participation and engagement in these projects, with an overall perception of increased intercultural competence and global awareness. However, areas for improvement are also identified, such as variability in the level of student involvement. This study contributes to filling a gap in research on the specific impact of SDG-oriented projects on the development of global citizenship.

Keywords: global citizenship; intercultural collaboration; Sustainable Development Goals; intercultural competence; experiential learning

1. Introduction

Increasing globalization and interconnectedness between cultures have highlighted the importance of promoting intercultural collaboration and global citizenship in education [1]. Academic projects oriented to the Sustainable Development Goals (SDGs) provide an ideal platform to integrate these perspectives, allowing students to develop crucial skills to address global challenges and contribute to sustainable development [2,3]. This research focuses on how these projects foster student participation and intercultural understanding and evaluates the impact on the development of competencies related to global citizenship.

In addition, higher education faces the challenge of preparing students for an increasingly diverse and complex world. Collaborative projects that address the SDGs not only enrich academic learning but also promote the integration of diverse cultural perspectives. This research seeks to explore how participation in these projects influences students' perceptions of global citizenship and the development of intercultural competencies, which encompass knowledge, skills, and attitudes. This highlights the relevance of these approaches to professional and personal formation.

From an epistemological perspective, the research addresses how intercultural competencies—including knowledge, skills, and attitudes—are constructed through practical experiences in SDG-oriented projects. It is grounded in constructivist learning theory, which holds that knowledge develops through interaction and

experience [4]. By integrating diverse cultural perspectives into academic projects, students not only acquire specific knowledge about the SDGs but also develop practical skills to apply them in global contexts [5].

Ontologically, the research assumes that reality is multiple and socially constructed through cultural interactions. Participation in multicultural projects provides students with experiences that shape their understanding of global citizenship and their role in an interconnected world. This approach recognizes that students' social reality is influenced by their interactions in collaborative projects and the integration of cultural perspectives [6,7].

Axiologically, the research values cultural diversity and collaboration as essential elements for the development of responsible global citizenship [8]. The ethos of the study is based on the promotion of equity and inclusion, ensuring that academic projects reflect and respect diverse cultural perspectives and foster a sense of social responsibility and commitment to the SDGs.

Existing literature on intercultural collaboration and global citizenship in education highlights the importance of integrating cultural perspectives into academic learning. Authors such as Garcia-Beltran [9], Mansilla and Jackson [10], Papadopoulou et al. [11], and Duffi et al. [12] have addressed how multicultural experiences can enhance students' global competence and foster a deeper understanding of global issues. However, there is a gap in specific research on the impact of SDG-oriented projects on global citizenship development.

The purpose of the study is to understand how academic projects oriented towards the SDGs affect student participation and the development of intercultural competences, which include skills, knowledge, and attitudes. Despite the increasing implementation of these projects in higher education, empirical evidence detailing how they influence the formation of global citizens is lacking. This research seeks to address this need by examining students' experiences in these projects and assessing their impact on global citizenship. Previous work has shown the effectiveness of collaborative projects in developing intercultural competencies, but specific evaluation in the context of the SDGs is lacking.

The main objective of the research is to analyze how participation in SDG-oriented academic projects provides an environment in which students can experience and reflect on diverse cultural perspectives, fostering the development of intercultural competences. The importance of the study lies in providing a detailed understanding of how these projects contribute to the formation of responsible and engaged global citizens. This knowledge is essential to improve the implementation of educational projects that effectively address global challenges and promote meaningful learning.

2. Theoretical framework

2.1. Relevant theories and approaches

Kolb's experiential learning theory underlies the research, highlighting the importance of practical experience in the development of intercultural competencies. Kolb argues that learning occurs through a cycle of concrete experience, reflection, abstract conceptualization, and active experimentation [13]. SDG-oriented academic

projects provide an environment in which students can experience and reflect on diverse cultural perspectives, facilitating the development of intercultural skills.

The intercultural competence approach proposed by Deardorff [14] is also central to the research, as it highlights the importance of self-assessment, empathy, and flexibility in intercultural competence. For this research, intercultural competence is defined as the combination of knowledge (understanding of cultures and global issues), skills (communication, teamwork, problem-solving), and attitudes (openness, respect, and adaptability) that enable individuals to engage effectively in multicultural environments [15,16]. This approach aligns with the idea that intercultural collaboration in academic projects can enhance students' ability to understand and respect different cultures.

The SDGs framework provides a crucial foundation for integrating intercultural perspectives into academic collaboration, particularly in higher education. The 2030 Agenda emphasizes the role of education in fostering sustainable and inclusive societies, with SDG 4 (Quality Education) highlighting the importance of equitable access to learning opportunities that develop global citizenship competencies. According to Martínez Lirola [17], incorporating SDGs into pedagogical strategies not only enhances linguistic and cognitive skills but also strengthens social and intercultural competencies, as demonstrated in didactic proposals for English language teaching.

In this context, academic collaborative projects that align with the SDG framework promote critical reflection on global challenges, enabling students to engage meaningfully with diverse cultural perspectives [18]. Furthermore, by applying SDG-oriented methodologies, universities can encourage students to actively participate in knowledge co-construction, fostering ethical research practices and intercultural dialogue. This approach aligns with the broader objective of higher education institutions to contribute to sustainable social transformation, ensuring that students are prepared to address complex global issues with an awareness of cultural diversity and social justice.

2.2. Theoretical insights and contributions

Despite the general recognition of the importance of the SDGs and intercultural collaboration in education, there is a theoretical gap in research on how specific SDG-oriented projects influence the development of intercultural competencies and perceptions of global citizenship. Most studies have focused on intercultural competence in general terms, without a detailed analysis of the specific impact of SDG-oriented projects.

The present research contributes to filling this gap by providing an empirical assessment of how these projects affect students' perceptions of global citizenship and their development of intercultural skills. By integrating theories of experiential learning with the concept of intercultural competence within the SDG framework, the study offers a unique perspective on the effectiveness of academic projects in promoting intercultural collaboration and global engagement.

3. Materials and methods

3.1. Type of research

The present research adopts a quantitative approach, with the objective of analyzing students' experiences in collaborative academic projects oriented to the SDGs. The research is descriptive and relational, as it seeks to describe and correlate student participation and the impact of intercultural collaboration on the development of global citizenship.

3.2. Research design

The research design is cross-sectional and correlational, as data will be collected at a single point in time to analyze the relationships between the variables of interest. The research does not focus on the manipulation of variables, but on the observation of the characteristics and experiences of the students in their current context.

3.3. Population and sample

The study population consists of 100 students from the pedagogy program of a public university in São Paulo. The sample is a census sample, as it includes the entire available population without the need for random sampling. This population was chosen due to their active engagement in SDG-oriented academic projects and their potential to provide valuable insights into intercultural collaboration and global citizenship development.

3.4. Data collection techniques and materials

A structured survey was used for data collection, designed to measure the development of intercultural competences, including knowledge (understanding of the SDGs and cultural diversity), skills (teamwork, communication, leadership), and attitudes (openness to diversity, cultural empathy, and willingness to engage in global issues). The questionnaire included 25 items categorized into these three dimensions, ensuring a comprehensive assessment of intercultural competence. The instrument underwent a pilot test with 10 students to assess clarity, reliability, and content validity before full-scale implementation. The survey utilized a 5-point Likert scale and was composed of 25 items divided into five categories: student participation, intercultural perspectives, development of global citizenship, understanding and application of the SDGs, and skills and competencies developed.

3.5. Description of the instrument

The data collection instrument consists of a 25-item questionnaire designed to measure students' perceptions of intercultural competence development in SDG-oriented projects. The items were structured using a 5-point Likert scale ("Strongly Disagree" to "Strongly Agree"). The questionnaire was developed based on established intercultural competence frameworks, particularly Deardorff's [14] model and the SDG education framework [17]. The initial draft was reviewed by three experts in global citizenship education to ensure content validity. A pilot study was conducted with 15 students to assess clarity, reliability, and item relevance. Following feedback,

minor modifications were made to improve item precision. To assess internal consistency, Cronbach's alpha was calculated, yielding 0.85, indicating a high level of reliability. While the survey provides valuable insights into students' self-perceptions, it does not include an externally validated intercultural competence scale. The questionnaire items were categorized into five dimensions:

- Student Participation (Items 1–5): Measures engagement in SDG-oriented projects.
- Intercultural Perspectives (Items 6–10): Assesses awareness and appreciation of cultural diversity.
- Global Citizenship Development (Items 11–15): Evaluates social responsibility and willingness to engage in global issues.
- Understanding & Application of SDGs (Items 16–20): Measures students' comprehension and implementation of SDGs in academic projects.
- Skills & Competencies Developed (Items 21–25): Examines teamwork, leadership, problem-solving, and research skills.

3.6. Data analysis methods

Data analysis was conducted using SPSS software, applying both descriptive and inferential statistical techniques. Descriptive statistics (mean, standard deviation, and frequency distributions) were used to summarize students' responses, while correlational analysis (Pearson's r) was employed to examine relationships between participation in SDG-oriented projects and perceived intercultural competence development. Additionally, an exploratory factor analysis (EFA) was performed to assess the internal structure of the survey and validate the grouping of items into relevant dimensions.

3.7. Ethical considerations

Informed consent was obtained from all participants, guaranteeing that their participation was voluntary and that they could withdraw at any time without consequences. Confidentiality and anonymity of responses were assured, and aggregated data were used for analysis to protect the identity of participants. The study followed ethical guidelines established by the university's research ethics committee, ensuring compliance with data protection regulations and ethical research practices.

3.8. Inclusion and exclusion criteria

Inclusion Criteria:

- Students enrolled in the pedagogy program at the public university in São Paulo.
- Active participation in academic projects oriented to the SDGs.

Exclusion Criteria:

- Students who do not participate in academic projects oriented to the SDGs.
- Students who did not complete the survey properly.

3.9. Limitations

One limitation of this research is the homogeneity of the sample, since all participants come from a single academic program at a specific university, which may

limit the generalizability of the results to other contexts or disciplines. Additionally, reliance on self-reported data introduces the possibility of response bias, as students may overestimate or underestimate their level of intercultural competence due to social desirability or subjective interpretation of survey items. Future research should consider incorporating qualitative methods, such as interviews or focus groups, to provide deeper insights into students' experiences and validate self-reported data. Furthermore, the cross-sectional nature of the study precludes establishing causal relationships between variables.

4. Results

The results obtained in this research illustrate the perceptions of student teachers at a public university in São Paulo regarding their participation in collaborative academic projects oriented to the SDGs.

The research findings indicate a generally positive evaluation of the impact of intercultural collaboration on the development of intercultural competences, with improvements observed in students' knowledge of global issues, practical intercultural skills, and attitudes towards cultural diversity, as seen in **Table 1**.

Table 1. Student perception of participation in academic projects oriented to the SDGs and the development of intercultural competences.

Item	TA	D	N	DA	TD
I regularly engage in academic projects related to the SDGs beyond basic course requirements.	5%	10%	20%	30%	35%
I feel committed to the objectives of the projects in which I participate.	3%	8%	25%	35%	29%
I believe my contributions are valuable to the success of the project.	4%	7%	15%	40%	34%
I am interested in the Sustainable Development Goals and their implementation in projects.	2%	5%	18%	40%	35%
Participation in these projects increases my academic motivation.	6%	9%	22%	30%	33%
The projects in which I participate include diverse cultural perspectives.	3%	7%	20%	35%	35%
I have learned a lot about other cultures through my participation in these projects.	4%	6%	23%	40%	27%
I value and respect cultural differences in my work team.	2%	4%	15%	40%	39%
I feel comfortable communicating with people from different cultures.	5%	8%	20%	30%	37%
I am able to resolve intercultural conflicts that arise in projects.	6%	10%	25%	30%	29%
My participation in these projects has increased my awareness of global issues.	4%	7%	18%	35%	36%
I feel more socially responsible because of my participation in these projects.	3%	6%	20%	35%	36%
I am more inclined to act on global issues because of my experience in these projects.	5%	8%	15%	35%	37%
These projects have enhanced my ability to think critically about global challenges.	4%	7%	22%	30%	37%
I feel great empathy for people from different parts of the world.	3%	5%	20%	35%	37%
I have a good understanding of the Sustainable Development Goals.	4%	8%	15%	40%	33%
I am able to apply the SDGs in the academic projects in which I participate.	5%	7%	20%	35%	33%

Table 1. (Continued).

Item	TA	D	N	DA	TD
I believe that the projects I am involved in have a positive impact on the achievement of the SDGs.	3%	6%	22%	30%	39%
The projects have allowed me to develop innovative solutions to global challenges.	6%	9%	20%	35%	30%
I am involved in evaluating the impact of our projects on the SDGs.	7%	10%	23%	30%	30%
My ability to work in a team has improved thanks to my participation in these projects.	3%	5%	15%	35%	42%
I have developed leadership skills through my participation in these projects.	4%	8%	20%	30%	38%
My time management skills have improved due to participation in these projects.	5%	6%	22%	35%	32%
My research skills have been strengthened through these projects.	4%	7%	18%	40%	31%
I have become better at solving complex problems thanks to these projects.	6%	9%	20%	30%	35%

4.1. Student participation in academic projects

Descriptive statistical analysis of the responses shows a generally positive trend in students' perceptions of their participation in SDG-oriented academic projects. Regarding active participation in academic projects oriented to the SDGs, 35% of students feel "Strongly Agree" with this statement, while 30% are "Agree". Only 20% are neutral, indicating that the majority actively participate in these projects. In relation to commitment to the project objectives, 29% stated "Strongly Agree" and 35% "Agree". This shows a high level of commitment among the students. On the perception of the value of their contributions, 34% "Strongly Agree" and 40% "Agree", reflecting that students feel valued in their contributions.

Despite the high level of participation and engagement reported, 20% of students are neutral about their active participation and contribution to the success of the project. This suggests that, although most students feel involved and valued, there is a segment that may not be as engaged or face barriers to participation.

The results indicate that students generally value their participation in SDG-oriented projects and feel committed to the project objectives. The high proportion of "Strongly Agree" and "Agree" responses regarding the value of their contributions suggests a positive perception of their role in the projects. However, the presence of neutral responses suggests that there may be variability in the level of involvement or perception of individual impact. This finding is consistent with previous studies that highlight the importance of active participation for the success of academic projects and students' professional development.

4.2. Intercultural perspectives

Regarding the inclusion of diverse cultural perspectives in the projects, 35% of the students "Strongly Agree" and another 35% "Agree". Most students (67%) perceive a rich cultural diversity in the projects. Regarding intercultural learning, 27% "Strongly Agree" and 40% "Agree", indicating that many students value the cultural learning obtained. In addition, 39% value and respect cultural differences, while 37% feel comfortable communicating with people from different cultures.

A key aspect of this study is the extent to which the academic projects provided students with direct intercultural experiences. The projects were designed to incorporate diverse cultural perspectives, offering students opportunities to engage with individuals from different backgrounds. However, the nature and depth of these interactions varied depending on the specific project and the level of student engagement.

The majority of the students participating in the SDG-oriented projects had direct interactions with people from different cultures. These interactions occurred in various ways, including collaborations with international students, virtual exchanges with participants from other countries, and community-based initiatives involving culturally diverse populations. For instance, some projects involved joint research with partner universities abroad, while others engaged students in service-learning experiences in multicultural urban areas of São Paulo. These engagements allowed students to apply their academic knowledge in real-world intercultural settings, fostering deeper understanding and appreciation of cultural diversity.

For many students, these projects represented their first structured exposure to multicultural collaboration. While some had prior informal experiences with individuals from different cultures, the structured nature of the SDG-oriented initiatives provided a more immersive and reflective engagement. Through teamwork, discussions, and problem-solving activities, students had the opportunity to confront cultural differences, adapt their communication styles, and develop greater empathy and openness towards diverse perspectives.

Additionally, survey responses revealed that while some students felt comfortable interacting with people from different cultural backgrounds, others initially faced challenges in intercultural communication and collaboration. These difficulties were often mitigated through guided reflection activities incorporated into the projects, which encouraged students to analyze their experiences and develop strategies for effective intercultural engagement.

The findings suggest that SDG-oriented academic projects can serve as effective platforms for developing intercultural competencies, particularly for students with limited prior exposure to multicultural environments. By integrating global and local perspectives, these initiatives provide meaningful experiences that enhance students' ability to navigate and contribute to an increasingly interconnected world.

Despite the overall positive perception about the inclusion of cultural perspectives, 20% of students remain neutral about intercultural learning and comfort in intercultural communication. This could indicate that some students do not experience a deep immersion in cultural diversity or face challenges in intercultural communication.

The results reflect an overall positive perception of cultural diversity and intercultural learning in the projects. The high proportion of "Strongly Agree" and "Agree" responses suggests that the projects are well designed to incorporate diverse cultural perspectives. However, the data also suggests that some students may not be fully immersed in the intercultural experience or face barriers in communication. This finding supports existing literature that emphasizes the importance of creating inclusive and supportive spaces to maximize intercultural learning.

4.3. Development of global citizenship

Thirty-six percent of students “Strongly Agree” that their participation in the projects has increased their awareness of global issues, and another 35% “Agree”. Regarding social responsibility, 36% feel they “Strongly Agree” and 35% “Agree”. In addition, 37% “Strongly Agree” that they are more inclined to act on global issues because of their project experience. 22% of students remain neutral on awareness of global issues and inclination to act, suggesting that not all participants experience a significant change in their perception of global responsibility. This may reflect differences in personal impact of projects or intensity of participation.

The results show that most students experience an increased awareness of global issues and a greater sense of social responsibility because of their participation in the projects. The inclination to act on global issues indicates a positive impact on the development of global citizenship. However, the presence of neutral responses suggests that the impact may vary among students, which is consistent with previous studies highlighting variability in the outcomes of global citizenship development programs.

4.4. Understanding and implementing the SDGs

The 33% of students feel “Strongly Agree” with having a good knowledge of the SDGs, and 40% “Agree”. Regarding the ability to apply the SDGs in projects, 33% “Strongly Agree” and 35% “Agree”. In addition, 39% of students believe that projects have a positive impact on the achievement of the SDGs, and 30% “Agree”. 20% of the students are neutral about the implementation of the SDGs in the projects and their positive impact. This could reflect a lack of clarity on how the SDGs are implemented or an ambiguous assessment of their impact.

The results indicate that most students have a good understanding of the SDGs and can apply them in the projects. The perceived positive impact on the achievement of the SDGs suggests that the projects are effective in promoting these goals. However, the neutral responses indicate that some students may not be completely clear about the application or impact of the SDGs, which is consistent with studies suggesting the need to strengthen the practical integration of the SDGs into educational projects.

4.5. Skills and competencies developed

42% of students “Strongly Agree” that their ability to work in a team has improved, and 35% “Agree”. Regarding leadership skills, 38% “Strongly Agree” and 30% “Agree”. Regarding time management, 32% “Strongly Agree” and 35% “Agree”. Research skills have been strengthened by 31% of the students, while 40% “Agree” with this statement. Finally, 35% consider that they have improved in solving complex problems, and 30% “Agree”.

Despite the overall positive perception in skill development, a significant percentage of students remain neutral regarding improvement in specific skills such as leadership and complex problem solving. This suggests that some students may not have experienced significant improvement in these areas.

Students reported improvements in key skills such as teamwork, leadership, and time management because of participating in SDG-oriented academic projects.

However, these findings are based on self-reported perceptions and do not include inferential statistical analysis to determine the magnitude of the effect. The improvement in research and problem-solving skills is also notable. However, neutral responses suggest that the impact on some skills may be variable, indicating the need to adapt and reinforce skill development strategies in educational projects. These findings are consistent with studies that highlight the value of collaborative projects in the development of professional competencies.

5. Discussion

The results obtained in this research underline the relevance of academic projects oriented towards the SDGs as catalysts for the development of intercultural competencies and the formation of global citizenship among student teachers. The high value students place on their participation in these projects reflects not only their recognition of the importance of intercultural collaboration but also how these practical experiences contribute to their personal and professional growth in an increasingly interconnected world.

From an educator's perspective, these findings have significant practical implications. First, the effectiveness of SDG-oriented academic projects demonstrates that experiential and collaborative learning models can effectively promote intercultural competencies. Educators should consider incorporating such projects into curricula to provide students with the opportunity to engage with global issues firsthand. This approach not only aligns with the growing demand for global citizenship education but also prepares students to work in diverse, multicultural environments. Teachers can adopt similar project-based learning frameworks, where students are required to actively participate in problem-solving tasks related to the SDGs, which will facilitate deeper engagement and foster intercultural understanding.

The results of this study are consistent with Kolb's model of experiential learning [13], confirming that students benefit most when given the opportunity to reflect on concrete experiences in intercultural contexts. For educators, this suggests the importance of not only designing projects that connect students with real-world problems but also providing structured opportunities for reflection and critical thinking, enabling students to draw connections between their experiences and theoretical frameworks. Additionally, incorporating opportunities for self-assessment and peer feedback, as emphasized by Deardorff [14], can further develop students' intercultural competence, specifically empathy and perspective-taking, key elements of global citizenship.

The study also highlights an increased student understanding of the SDGs and their ability to act based on that understanding. While literature has acknowledged the role of SDG-oriented projects in raising awareness of global challenges [18], this research contributes by illustrating that students' engagement leads to a transformation not only in knowledge but also in their perceived role as global citizens. This insight provides valuable guidance for educators aiming to inspire students to move beyond theoretical knowledge and engage actively in global issues. Therefore, educators should encourage students to apply their learning through projects that have tangible impacts, allowing them to experience the real-world relevance of the SDGs.

However, this study is not without its limitations. First, the research sample was limited to a specific group of student teachers, and the findings may not be fully generalizable to other student populations. Future studies should seek to explore a wider range of disciplines and educational contexts to assess the broader applicability of SDG-oriented projects in fostering intercultural competence. Additionally, the study relied on self-reported data, which could be subject to response biases. Future research should include a more diverse set of data collection methods, such as observational studies or interviews, to triangulate the findings and provide a more nuanced understanding of the impacts of these projects.

Moreover, while this study provides valuable insights into the benefits of SDG-oriented projects, further research is needed to explore how these projects can be scaled and implemented in various educational settings. It would be useful to investigate the long-term impacts of participation in such projects on students' professional development and career outcomes. Additionally, studies could explore the challenges educators face in integrating SDG-focused projects into their teaching practices and how these challenges can be overcome.

In summary, this research reinforces the potential of SDG-oriented academic projects to foster intercultural collaboration and develop global citizenship among student teachers. The findings emphasize the importance of experiential learning and highlight the transformative power of engaging students in real-world challenges. For educators, the study provides a strong case for incorporating SDG-focused projects into curricula to cultivate intercultural competencies and prepare students for a globally connected world. Future research should expand on these findings by examining the scalability and long-term impacts of such projects, as well as the challenges faced by educators in their implementation.

6. Conclusions

Findings from this research suggest that students perceive improvement in their intercultural competencies and global citizenship awareness after participating in SDG-oriented academic projects. However, these results are based on self-assessments, and further research using validated intercultural competence scales would be necessary to confirm these effects objectively. These projects have provided students with a conducive environment to develop intercultural competences, integrating theoretical knowledge about cultural diversity, practical skills for intercultural communication and teamwork, and attitudes of openness and global engagement.

It has been found that interaction with peers from different cultural backgrounds in the context of the SDG projects has strengthened students' ability to understand and respect different cultures, contributing to the development of comprehensive intercultural competence. This growth in intercultural competence has translated into a greater willingness and ability to participate as responsible global citizens, aligning with the principles of education for sustainable development.

In addition, research has provided evidence that SDG projects not only enrich academic learning but also promote a sense of social responsibility and engagement with global issues. This combination of experiential learning and intercultural focus

has proven to be effective in shaping students who are better prepared to face the challenges of an interconnected world.

This study contributes to existing research by providing an empirical assessment of how SDG-oriented academic projects relate to students' perceived development of intercultural competencies and global citizenship. While prior studies have highlighted the role of intercultural experiences in education, there is limited research specifically examining self-reported intercultural competence development within SDG-oriented projects.

However, the study has limitations, including reliance on self-assessments and a homogenous sample of pedagogy students, which may already have a predisposition toward cultural sensitivity. Future research should incorporate mixed-method approaches, including validated competence scales and comparative studies with non-participating students, to provide a more comprehensive analysis.

Finally, future lines of research are identified that could explore how different disciplines and educational contexts could adapt and expand on these findings, as well as the possibility of longitudinal studies that assess the sustained impact of participation in SDG projects over time. This additional research could provide a more complete picture of how intercultural education and SDG-oriented projects can continue to evolve to address the needs of an increasingly globalized world.

Institutional review board statement: Ethical review and approval were waived for this study due to its minimal risk nature, involving voluntary and anonymous participation of adult university students. All participants provided informed consent prior to participation, and data were collected in accordance with ethical principles and institutional guidelines established by the Universidad de Los Andes.

Informed consent statement: Informed consent was obtained from all subjects involved in the study.

Conflict of interest: The author declares no conflict of interest.

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