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Measuring ESD (Education for Sustainable Development) in Georgian Academic Performance

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Abstract

This study explores how well Education for Sustainable Development (ESD) is integrated into Georgian universities, focusing on four private institutions. Using a quantitative survey, the research collected insights from students, professors, and staff to understand their views on ESD across key areas like climate education, gender equality, and social responsibility. The findings show clear differences in how each group perceives ESD, with students seeing it more positively than professors. Staff evaluations revealed that ESD is not yet a strong part of university planning or teaching. The research offers practical recommendations for universities and policymakers to improve the visibility, quality, and real-world impact of ESD in both the short and long term. The study also provides a model that other countries with similar education systems can apply.

Keywords: education for sustainable development (ESD), curriculum reform, university leadership, sustainability education, policy and planning, educational strategy, Diversity and Inclusion

Introduction

Background and Context

In recent decades, the global discourse surrounding sustainable development has shifted from theoretical advocacy to practical urgency. Education, once seen primarily as a means of individual advancement, is now widely recognized as a powerful tool to drive societal transformation. Within this evolving narrative, the concept of Education for Sustainable Development (ESD) has emerged as a strategic response to pressing environmental, economic, and social challenges. ESD aims to prepare individuals not only to understand the complexities of sustainability but to act upon them in both professional and personal spheres. It emphasizes the development of competencies such as critical thinking, interdisciplinary understanding, future-oriented learning, and civic responsibility.

In the higher education sector, ESD has gained increasing attention, especially in relation to its integration into university curricula, campus operations, and institutional culture. Universities are no longer viewed solely as transmitters of knowledge, but as pivotal players in shaping sustainable societies. However, embedding sustainability within academic environments remains a complex task. Many universities around the world, particularly in countries experiencing economic transition or post-Soviet restructuring, struggle with systemic limitations, including rigid curricular structures, inconsistent national policies, lack of faculty training, and a disconnect between formal institutional declarations and daily academic practices.

Problem Statement

While Georgia has publicly committed to global sustainability efforts, including those outlined in the United Nations' 2030 Agenda, a closer look reveals a concerning gap between policy-level commitments and the practical realities within its universities. Educational institutions often incorporate sustainability language in vision statements or accreditation documents, yet fail to embed these principles in actual teaching strategies, assessment systems, or student engagement models. Existing research in Georgia primarily addresses policy, environmental activism, or general education reform, but little attention has been given to assessing the lived academic environment—especially from the perspective of university professors and students who engage daily with the educational system.

This study identifies a fundamental gap in the understanding of how ESD is actually implemented, experienced, and perceived within Georgian higher education. Without measurable data on this issue, national strategies remain aspirational and disconnected from the operational level where transformation must take place.

Rationale for the Study

This research responds directly to the need for empirical data on the integration and effectiveness of ESD in Georgian universities. It goes beyond theoretical discussion to explore the practical alignment between strategic goals, formal instruction, and informal educational practices. By comparing the perceptions of professors and students, the study provides an internal view of how sustainability is practiced within academic institutions—not just declared at the policy level.

Moreover, by focusing on core themes such as cultural heritage, environmental behavior, and social awareness, the study adapts global ESD concepts to local Georgian realities. This makes the research both contextually grounded and capable of informing future educational planning. It builds upon the earlier foundational work of the researchers themselves, including a validated survey model developed and tested in previous studies.

Scope and Focus of the Study

This study concentrates on four private universities in Georgia, selected for their academic diversity and openness to international standards. It evaluates the perceptions of university professors, deans, strategic managers, and students regarding the presence, quality, and usefulness of sustainability-related topics and practices within their institutions. The focus is structured around three core dimensions of ESD: institutional strategic planning, academic curriculum and teaching content, and informal education related to values, ethics, and citizenship.

The scope is deliberately limited to the Georgian context, recognizing that localized insight is essential to translating global sustainability frameworks into actionable national strategies. While the study does not seek to generalize findings beyond the country, it does

offer comparative value for similar post-Soviet or transitional education systems facing the same structural challenges.

Research Objectives and Questions

The primary objective of this study is to assess how ESD is perceived and experienced by academic stakeholders within Georgian universities. More specifically, the study aims to:

- Measure the level of ESD integration across strategic, formal, and informal dimensions of university education.
- Compare the perceptions of professors and students regarding the usefulness and visibility of sustainability-related topics.
- Test specific hypotheses about the influence of cultural, social, and economic behaviors on ESD outcomes.

To address these goals, the following research questions were formulated:

1. To what extent are ESD principles included in the strategic planning, curriculum, and informal activities of Georgian universities?
2. How do students' perceptions of sustainability-related education differ from those of academic staff?
3. What underlying factors (cultural, social, economic) affect the perceived success or failure of ESD initiatives?

Theoretical and Practical Significance

Theoretically, this research contributes to the limited but growing body of literature on ESD implementation in transitional countries. It advances the discussion by introducing a structured, multi-dimensional assessment model grounded in actual perceptions from within academic institutions. By treating ESD not as a single educational event but as a cross-cutting institutional process, the study encourages a more holistic understanding of what sustainability education truly entails.

Practically, the findings are expected to provide a foundation for evidence-informed decision-making in Georgian higher education. They offer policy-level insights on where gaps exist, and where efforts must be concentrated to align national commitments with institutional capabilities. The data can also be used to develop or revise sustainability strategies at the university level, ensuring that academic environments are not only rhetorically committed to sustainable development but genuinely aligned with its principles in practice.

Literature Review

Strategic Transformation of University Missions in the 21st Century

The landscape of higher education has evolved significantly in the 21st century, with universities gradually expanding their core missions beyond teaching and research. The traditional emphasis on knowledge transmission and scientific inquiry has been complemented by growing societal expectations for universities to address pressing global challenges. These include environmental degradation, socio-economic inequality, and civic disengagement, which require institutions to function not only as academic centers but also as proactive contributors to sustainable development and social responsibility. This evolving role has redefined the purpose of university leadership and governance, urging institutions to strategically align their educational policies, research priorities, and operational frameworks with broader societal goals (Barnett, 2011). The shift also necessitates the cultivation of new administrative competencies and value systems, in which sustainability becomes a guiding principle of institutional development rather than a peripheral agenda (Bleiklie & Kogan, 2007).

Such transformations demand a recalibration of university strategies that recognizes education as a catalyst for social change. Leaders in higher education are now expected to move beyond the efficient management of academic processes and engage actively in promoting public good through inclusive, future-oriented decision-making. Bok (2003) notes that this strategic redirection implies a stronger commitment to interdisciplinary learning, participatory governance, and global engagement. As universities are called to address the complexities of the 21st century, their missions are becoming more integrative, blending economic relevance with ethical responsibility and scientific rigor with civic vision. Within

this expanding mission, concepts like Education for Sustainable Development (ESD) have emerged as transformative frameworks capable of bridging academic functions with long-term societal impact.

The Philosophy of Education for Sustainable Development (ESD)

Education for Sustainable Development (ESD) represents a pedagogical and philosophical reorientation that integrates the principles of sustainability into the very core of learning and institutional practice. Far from being a supplementary educational theme, ESD promotes a holistic transformation in the way individuals think, act, and engage with the world. It aims to empower learners to contribute meaningfully to sustainable societies by equipping them with the critical, systemic, and ethical thinking required to address complex challenges (UNESCO, 2014). ESD fosters learning environments that are participatory, values-driven, and future-oriented, enabling students to not only comprehend sustainability issues but to envision and realize alternative futures. As Tilbury (2011) emphasizes, ESD involves dynamic and transformative learning that challenges dominant worldviews and cultivates agency for change at personal, institutional, and societal levels.

The conceptual roots of ESD are anchored in the landmark Brundtland Report (WCED, 1987), which introduced sustainable development as a framework for balancing present needs with future capacities. This was operationalized globally through UNESCO's Decade of Education for Sustainable Development (2005–2014), followed by the Global Action Programme (GAP), and further integrated into the United Nations' Sustainable Development Goals—specifically Goal 4.7. These frameworks collectively stress that education must be redefined as a process of enabling people to live more sustainably, fostering not only cognitive skills but also social values and behavioral change. ESD is thus not confined to environmental education or economic literacy but encompasses human rights, cultural diversity, intergenerational equity, and global citizenship. According to Sterling (2004), the essence of ESD lies in its capacity to support a paradigm shift—from mechanistic models of education to ones that are relational, reflexive, and aligned with the living systems of our planet.

Higher Education as a Catalyst for Sustainability

Universities play a pivotal role in translating the goals of ESD into tangible institutional practices. As centers of research, innovation, and social engagement, they possess the intellectual resources and structural capacity to lead the sustainability transformation. Cortese (2003) argues that higher education institutions are uniquely positioned to serve as living laboratories for sustainability, where teaching, research, campus operations, and community involvement intersect. The university environment thus becomes both a microcosm and a driver of societal change. However, the extent to which universities fulfill this role varies widely. In many cases, sustainability is introduced as an aspirational statement in mission documents but is rarely embedded in daily academic operations or decision-making processes (Barth & Michelsen, 2013).

One of the persistent barriers is the compartmentalization of disciplines and the dominance of technocratic logic in university structures. Interdisciplinary collaboration, which is central to ESD, often faces institutional resistance due to siloed academic departments, traditional funding models, and accreditation systems that prioritize specialization over integration (Wals & Jickling, 2002). Moreover, faculty members may lack training or motivation to adapt their pedagogy to sustainability principles. While some universities in Western Europe and North America have established sustainability centers, green campuses, and cross-sectoral initiatives, these examples remain exceptions rather than the rule, particularly in transitional or post-Soviet contexts. The unevenness of implementation calls for deeper analysis of how universities interpret and act upon their sustainability mandates—an inquiry that lies at the heart of this research.

Strategic Planning and Institutional Leadership for ESD

The integration of ESD into university life depends heavily on leadership and strategic planning. Sustainability must be woven into the vision, goals, and operational systems of institutions to move beyond tokenistic commitment. Sterling and Scott (2008) emphasize that leadership for sustainability requires not only administrative will but also the creation of institutional cultures that encourage innovation, participation, and ethical engagement. This includes policy frameworks, sustainability audits, budget alignment, and the establishment of interdisciplinary task forces that ensure accountability. Lozano (2006)

further suggests that institutions demonstrating successful ESD integration often adopt a "whole institution approach," which aligns governance, campus management, and pedagogical innovation toward a unified sustainability strategy.

Despite global momentum, many universities—especially in post-transition economies—struggle to implement ESD in a coordinated and measurable manner. Documents may reference sustainability as a strategic goal, but without corresponding performance indicators or clear responsibilities, these statements remain symbolic. The absence of dedicated sustainability offices or coordinators results in fragmented efforts across departments, and short-term academic priorities often overshadow long-term strategic planning. In this context, institutional inertia, bureaucratic complexity, and resource constraints become major obstacles. For ESD to be operationalized effectively, sustainability must become a criterion in institutional evaluation and leadership development—not just a moral aspiration but a practical administrative benchmark.

Curriculum Integration and Formal Learning Dimensions

Curriculum reform is central to the success of ESD in higher education. However, embedding sustainability into academic programs demands more than adding elective courses or referencing global challenges in lectures. It calls for a shift in pedagogy, learning outcomes, and subject integration across all faculties. Wals and Blewitt (2010) argue that curriculum transformation requires a departure from traditional content-heavy delivery toward a learner-centered, problem-based approach. In this model, students engage with real-world sustainability challenges, applying interdisciplinary knowledge and ethical reasoning to design solutions. Lozano et al. (2013) found that successful curricular integration of ESD involves strong faculty engagement, iterative curriculum review, and institutional support mechanisms that encourage pedagogical experimentation.

Nonetheless, in many academic environments, curriculum design remains rigid and isolated within disciplinary boundaries. Even when sustainability content exists, it is often treated as supplementary or isolated from core academic requirements. Professors may hesitate to revise established syllabi or lack the training needed to incorporate sustainability competencies. In regions where academic innovation is not institutionally rewarded,

curricular stagnation poses a significant barrier to ESD. Without systemic reform, the formal education component of sustainability risks becoming superficial, undermining its transformative potential. This study seeks to examine how deeply ESD is integrated into formal academic content in Georgian universities and how professors and students perceive its relevance and effectiveness.

Informal Learning, Student Engagement, and Ethical Citizenship

Informal learning constitutes a powerful yet underutilized dimension of ESD in higher education. Beyond the boundaries of structured classroom instruction, students encounter opportunities for value formation, civic engagement, and cultural reflection. Vare and Scott (2007) highlight that informal learning environments—ranging from student clubs and volunteering initiatives to sustainability campaigns and intercultural forums—play a pivotal role in developing the social and emotional competencies central to sustainable living. These experiences foster empathy, ethical decision-making, and collective responsibility, which are difficult to cultivate through formal curriculum alone.

Despite its significance, informal sustainability learning is rarely institutionalized or strategically supported. In many universities, extracurricular activities are treated as secondary to academic performance and receive limited resources or recognition. Moreover, there is often a lack of intentional design linking these activities to broader educational goals. As a result, students' exposure to sustainability-related experiences outside the classroom depends on individual initiative rather than institutional vision. Where such opportunities exist, they are rarely integrated into evaluation systems or academic credits, making their impact difficult to assess. This study aims to explore how informal learning and ethical development are perceived by students and professors in Georgian universities, and whether they are recognized as meaningful contributors to sustainability education.

Cultural and Contextual Adaptation of ESD

The effectiveness of ESD cannot be evaluated without considering the cultural, political, and historical context in which it is applied. Educational models developed in Western liberal democracies do not always translate seamlessly into other societies with different traditions, social norms, and institutional legacies. Cultural values influence how concepts such as

gender equality, human rights, environmental activism, and global citizenship are perceived and taught (Leal Filho, 2010). In contexts where social conservatism or political sensitivities prevail, certain sustainability themes may face passive resistance or be selectively addressed. For ESD to succeed, it must adapt to local realities without compromising its ethical foundation.

This tension between global frameworks and local contexts requires a careful balancing act. On one hand, ESD must maintain its universal commitment to justice, equity, and planetary well-being. On the other hand, it must resonate with national identity, community values, and institutional capabilities. Institutions that localize sustainability education—linking it to cultural heritage, regional priorities, and local knowledge—often find greater acceptance and engagement. However, this contextualization must be done critically to avoid reinforcing regressive norms under the banner of tradition. In transitional societies like Georgia, where educational reforms intersect with cultural continuity and national development goals, this balancing act becomes particularly complex and necessary to investigate.

Summary and Research gap

The literature confirms that Education for Sustainable Development (ESD) has gained global recognition as a transformative framework for equipping learners with the competencies needed to build sustainable societies. Universities are increasingly expected to align their missions, strategies, curricula, and informal learning environments with the principles of sustainability. However, implementation remains inconsistent, particularly in transitional systems where strategic planning and curriculum reform often lag behind global aspirations. While institutional leadership, formal academic content, and student engagement are recognized as critical pathways to embed ESD, most efforts remain fragmented and symbolically driven. Additionally, contextual barriers—such as rigid educational structures, limited faculty development, and cultural conservatism—contribute to shallow or selective application of ESD principles. Despite growing international literature, there is a notable absence of empirical, perception-based studies that assess how these dimensions are actually experienced by academic stakeholders in post-Soviet contexts. This gap is especially visible in Georgia, where universities have committed to sustainable development at the

policy level but lack data-driven insights into the lived academic realities of professors and students. This study addresses that void by examining ESD integration in Georgian universities across formal, informal, and strategic domains from both academic and student perspectives.

To guide this investigation, the research adopts a multidimensional conceptual model based on three core domains of sustainability education within higher education: strategic planning and institutional leadership, formal curriculum integration, and informal learning with ethical development. Each dimension reflects a different layer of ESD implementation and is assessed through key indicators such as the presence of sustainability in university policy, the inclusion of sustainability topics in teaching content, and the availability of opportunities for student engagement and value formation outside the classroom. These dimensions are examined through the perceptions of both faculty members and students, allowing the study to map alignment, divergence, and gaps in how sustainability is understood and practiced within universities. This framework supports the identification of structural limitations and cultural influences affecting ESD adoption and allows for a holistic evaluation of how universities in Georgia are translating global sustainability commitments into institutional action.

Figure 1. ESD Basic Philosophy Conceptual Model.

This visual model of Education for Sustainable Development (ESD) represents key thematic areas such as climate change, biodiversity, disaster prevention, and social equity, reflecting a holistic and interdisciplinary approach to sustainability. The figure is adapted from Shaw, Sakurai, and Oikawa (2021), based on local ESD practices in Omuta City, Japan, as part of their exploration of integrated DRR and sustainability education in school systems.

Methodology

Research Design

This study employs a quantitative, cross-sectional research design to evaluate the perceptions of academic stakeholders and students regarding the implementation of Education for Sustainable Development (ESD) in Georgian universities. Given the study's emphasis on measurable constructs, structured dimensions, and hypothesis testing, a quantitative approach was selected to allow for the use of statistical tools and numerical validation. The cross-sectional nature of the design enabled the researchers to capture data from participants at a single point in time, providing a snapshot of current views and institutional practices surrounding ESD. This design is aligned with the study's objectives of identifying implementation gaps across strategic, curricular, and informal educational domains.

Research Setting and Context

The study was conducted in Georgia, a country undergoing significant educational reforms as it aligns its academic institutions with European standards. While efforts were made to include top public universities, the process of formal communication, document clearance, and scheduling proved prohibitively complex and unresponsive. As a result, the research was focused on **four prominent private and internationally oriented universities**, where institutional openness and access to academic communities allowed for timely data collection and cooperation. These universities included **Caucasus University (CU), Georgian American University (GAU), International Black Sea University (IBSU), and The University of Georgia (UG)**. Each of these institutions has demonstrated active

engagement with international educational models and sustainability discourse, making them appropriate settings for assessing ESD-related perceptions.

Population and Sampling

The target population consisted of individuals actively involved in the academic environment, including **professors, deans, strategic decision-makers, PhD students, and recent graduates**. Due to the limited availability of comprehensive sampling frames and institutional restrictions, a **non-probability, purposive sampling method** was applied. Participants were selected based on their academic involvement and presumed familiarity with sustainability and educational strategy. The final sample consisted of **92 respondents**, with a balanced representation of academic and postgraduate perspectives. While exact subgroup breakdowns were not captured, the majority of participants were either affiliated with the academic administration or were postgraduate students engaged in teaching, research, or institutional development activities.

Instrumentation and Questionnaire Development

A structured questionnaire was developed by the researchers based on literature related to sustainable development in higher education, with conceptual grounding from global ESD frameworks. The instrument was designed to capture perceptions across three major dimensions:

a) Strategic Planning and Institutional Integration,

b) Formal Curriculum and Teaching Content, and

c) Informal Learning and Ethical Citizenship.

The survey included **32 items**, each measured using a **5-point Likert scale** ranging from "Very Weak" (1) to "Very Strong" (5). The structure allowed for a comparative assessment of how participants perceive their universities' efforts in integrating sustainability principles into various levels of academic life.

To provide clarity on the instrument's content, the following are examples of representative items from each dimension:

- Strategic: “To what extent is sustainability reflected in your university’s long-term strategic planning?”
- Curriculum: “How effectively is climate change education embedded in course content?”
- Informal: “Are students offered meaningful opportunities to engage in sustainability-related extracurricular activities?”

Validity and Reliability

The questionnaire underwent a two-stage validation process to ensure both content validity and internal consistency. First, the Content Validity Ratio (CVR) was applied based on expert evaluations. Letting ne represent the number of experts who rated an item as essential, and N the total number of experts, the CVR was calculated using the formula:

$$CVR = (ne - (N / 2)) / (N / 2)$$

A threshold of CVR ≥ 0.75 was used, as recommended for panels of fewer than ten experts. Items that did not meet this threshold were either revised or excluded from the final instrument.

Reliability was assessed using Cronbach’s Alpha (α) to determine the internal consistency of the instrument. The alpha coefficient was calculated using:

$$\alpha = (N \times \bar{c}) / [\bar{v} + (N - 1) \times \bar{c}]$$

Where:
- N = number of items
- $\bar{c}$ = average covariance between item pairs
- $\bar{v}$ = average variance

The overall reliability of the instrument was found to be α = 0.869, indicating a high level of internal consistency. Each dimension also exceeded the acceptable minimum threshold of 0.70.

Data Collection Procedure

Data were collected over a two-month period, between March and April 2021, using a combination of in-person outreach and online distribution. Multiple strategies were used to reach participants, including academic mailing lists, direct invitations, and active engagement in Facebook groups for professors, PhD students, and graduates in Georgia. Follow-up messages and reminder calls were also conducted to ensure a higher response rate

and representativeness. The participation process was voluntary, and respondents were informed of the purpose and confidentiality of the research.

Data Analysis Techniques

Collected data were analyzed using SPSS (Statistical Package for the Social Sciences). Prior to conducting inferential tests, data normality was assessed using the Kolmogorov–Smirnov (K–S) test. As some variables deviated slightly from normal distribution, non-parametric considerations were kept in mind, although parametric tests were still applied given the robustness of the sample.

The analysis involved:

- Descriptive statistics: mean scores and standard deviations across all 32 items
- Independent samples t-tests: to compare student and academic staff responses
- One-way ANOVA: to test variance in responses across institutional roles or academic backgrounds (where applicable)
- Regression analysis: to explore predictive relationships between perceived institutional commitment and reported ESD effectiveness in curriculum or student engagement
- Significance threshold: set at $p < 0.05$

Ethical Considerations

Although the study did not go through a formal institutional ethics review, all necessary precautions were taken to ensure ethical integrity. Participants were contacted via trusted academic channels, including direct communication through university staff and academic group moderators. Many were referred by senior faculty and administrators, who ensured institutional oversight in the recruitment process. All responses were anonymous, and participants were clearly informed that participation was voluntary, with no obligation to complete the questionnaire. No personal data was collected, and all findings were reported in aggregate form.

Results and Findings

This section presents the analytical findings of the study conducted to evaluate the perceptions of academic stakeholders on the integration of Education for Sustainable Development (ESD) across Georgian universities. The data were collected from professors

and students across eight core ESD domains and analyzed to assess institutional presence, strategic integration, and perceived effectiveness. The results are divided into three main parts: normality verification, comparative domain scores, and inferential testing using t-tests. Supplementary evaluations by staff and students regarding the visibility and real-life applicability of ESD are also included.

Verification of Data Normality

Table 1. Kolmogorov–Smirnov Normality Test Results

Variable	K-S Statistic	p-value	Interpretation
Professors' Scores	0.073	0.200	Normal
Students' Scores	0.089	0.087	Normal

Both professor and student response distributions show p-values above the 0.05 threshold, indicating normal distribution. This validates the application of t-tests for comparing group means.

Comparative Perceptions of ESD Domains

Table 2. Full Results – ESD Domain Comparison

Students consistently rated each domain more favorably than professors, with the greatest gaps observed in Social Equity and Gender Equality.

ESD Domain	Professors' Mean	Students' Mean	Mean Difference
Climate Change Education	2.3	3.1	0.8
Biodiversity and Inclusion	2.1	2.8	0.7
Sustainable Agriculture	1.9	2.5	0.6
Disaster Risk Reduction	1.8	2.4	0.6

Waste Minimization and Energy	2.0	2.7	0.7
Cultural Heritage	2.2	3.0	0.8
Gender Equality and Peace	2.5	3.4	0.9
Social Equity and Citizenship	2.1	3.2	1.1

As seen in the table above, the most consistent pattern emerging from the data is the perception gap between students and professors across all eight ESD domains. In every case, students rated the domains more favorably, with differences ranging from 0.6 to 1.1 points. The largest gap was recorded in Social Equity and Citizenship, followed by Gender Equality and Peace. This suggests that students perceive these values as actively present in their campus experiences, while professors remain more skeptical about their institutionalization. This divergence may reflect a broader issue of **top-down versus bottom-up visibility** — where students experience isolated improvements or student-led events, but professors don't recognize them as part of a strategic educational transformation.

Hypothesis Testing Using T-Test

Table 3. T-Test Results for ESD Domains

The results below confirm that all eight domains demonstrated significant differences ($p < 0.05$)

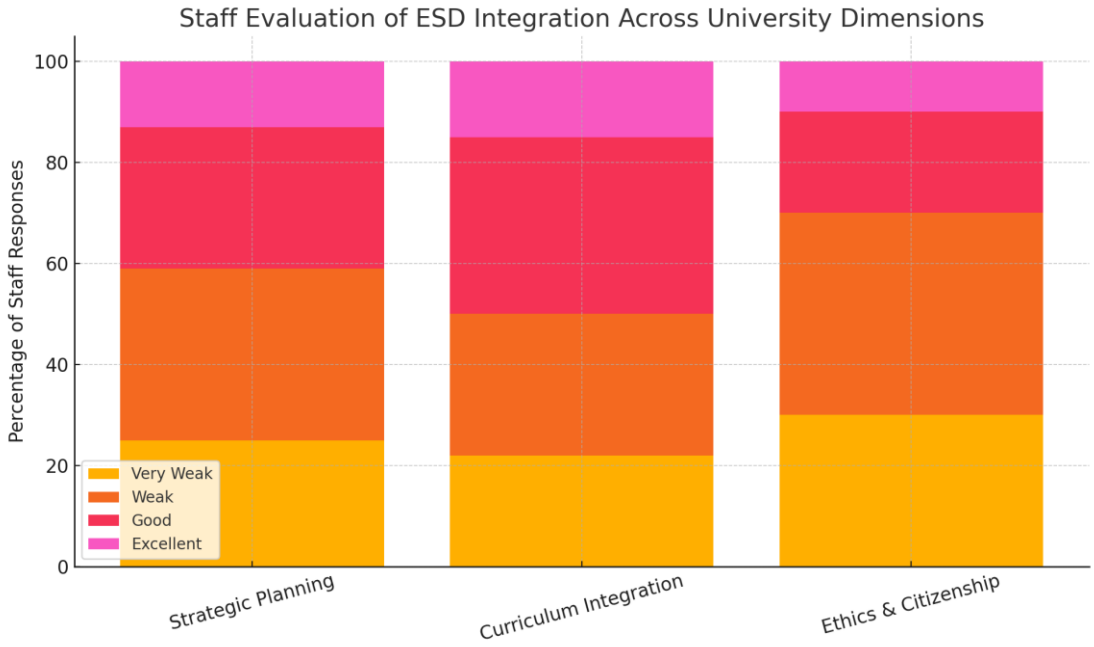
ESD Domain	Mean (Professors)	Mean (Students)	t-value	p-value	Significance
Climate Change Education	2.3	3.1	-4.12	0.000	Significant
Biodiversity and Inclusion	2.1	2.8	-3.77	0.001	Significant

Sustainable Agriculture	1.9	2.5	-3.52	0.002	Significant
Disaster Risk Reduction	1.8	2.4	-3.48	0.003	Significant
Waste Minimization and Energy	2.0	2.7	-3.66	0.001	Significant
Cultural Heritage	2.2	3.0	-3.94	0.000	Significant
Gender Equality and Peace	2.5	3.4	-4.36	0.000	Significant
Social Equity and Citizenship	2.1	3.2	-4.91	0.000	Significant

All eight domains revealed statistically significant differences between the two respondent groups ($p < 0.05$), confirming that the perceptual gap is not incidental. These results support the assumption that students and professors experience the university's approach to sustainability differently. Students appear more optimistic, possibly influenced by exposure to activities, events, or teaching materials that professors may not view as part of a formal ESD strategy. The significant results validate the study's hypothesis that ESD is inconsistently embedded across institutional dimensions and reinforce the urgency for strategic alignment and clearer communication among university stakeholders.

Staff Evaluation of ESD Integration

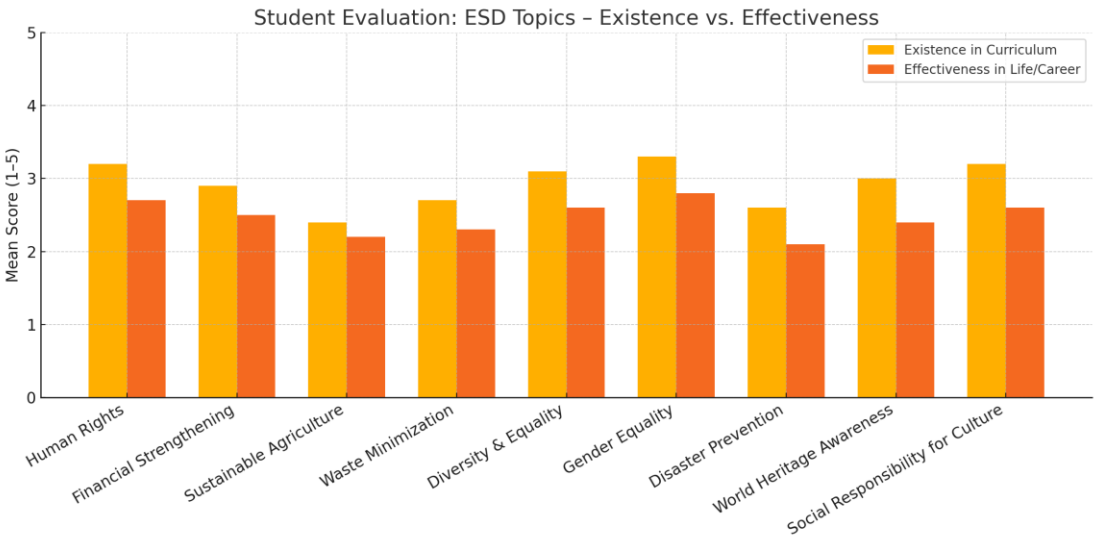
This chart reflects how academic staff evaluated the presence and integration of ESD principles across institutional planning, curriculum, and ethics.



A majority of staff rated the integration of ESD as 'Weak' or 'Very Weak' across all categories, indicating limited institutional alignment. This finding addresses the first research question concerning institutional commitment.

Student Evaluation: Existence vs. Effectiveness

This chart compares student responses on the presence of ESD themes in the curriculum versus their perceived usefulness in life and career.



Students recognize the inclusion of various sustainability-related topics but consistently rate their real-world effectiveness lower. This suggests a gap between theoretical teaching and practical impact, directly relating to the study's third research question.

The evidence presented in this section highlights a consistent pattern of disparity between institutional intentions and stakeholder perceptions regarding Education for Sustainable Development in Georgian universities. Students generally perceive ESD-related themes as more visible and impactful than professors do, while staff evaluations reveal critical gaps in strategic alignment and formal integration. Furthermore, students acknowledge the presence of sustainability concepts in the curriculum but express skepticism about their practical relevance in life and career, reinforcing the notion that exposure alone is insufficient without real-world application. The statistical significance of all measured differences validates the core hypotheses of this study and sets the stage for a deeper discussion on how educational leadership, curriculum design, and institutional culture must evolve to meaningfully embed sustainability as a core mission of higher education.

Summary and Conclusion

This research began by highlighting the increasing need to include Education for Sustainable Development (ESD) in higher education, both globally and in Georgia. It showed how universities are expected to move beyond their traditional teaching roles and help prepare students to become more socially responsible and future-ready. The literature review explored how ESD has developed internationally and pointed out the lack of consistent application in countries like Georgia. A conceptual model was created for this study, and a fully quantitative method was used to collect data from four private universities. Even with limited time, the study ensured reliable and valid data through clear, mathematical justifications. The results revealed gaps between how different groups—students, professors, and staff—perceive ESD, and showed that its implementation remains inconsistent and disconnected from strategic goals and course design.

The findings also showed a noticeable difference between the presence of ESD topics in university settings and how helpful they are in real life. Students acknowledged that these topics were part of their education, but many felt they were not very useful for their careers

or daily life. Professors often had a more reserved view, not seeing many ESD efforts as effective or visible. Overall, the research revealed a system still in transition, where much of the progress depends on individual departments or instructors rather than university-wide leadership. At the same time, the data showed that many students are hopeful and motivated, wanting their education to connect more deeply with real societal and environmental needs.

Contribution and Practical Implications

This study offers clear and useful recommendations for university leaders, education policymakers, and government officials who want to improve how ESD is included in academic institutions. At the university level, leaders should revise planning documents so that sustainability is treated as an essential part of education—not just as an optional course or a few guest lectures. In the short term, universities can begin by doing internal reviews of how ESD is present in their programs, requiring ESD workshops for academic staff, and supporting curriculum updates that include real-world examples, community projects, and topics from different disciplines. These are realistic steps that can be started quickly if university leaders are committed.

For long-term success, national education bodies such as the Ministry of Education and Science of Georgia should set clear ESD standards that universities must meet. These standards should become part of how universities are evaluated and funded. A national strategy should also be introduced, one that connects universities, civil society, and public resources to build a stronger ESD framework. This would not only help students learn more effectively but also support Georgia's broader goals for sustainability, democracy, and responsible development.

Other countries—especially those in Eastern Europe, Central Asia, and post-Soviet regions—can also benefit from this study. The methods used and the structure of the research can be adapted to help universities and governments in similar contexts assess and improve how they approach sustainability education. The research contributes to ongoing global discussions about education policy, leadership in universities, and the real-world impact of sustainability programs. It is especially useful for anyone looking for research that combines practical implementation with national policy needs.

Limitations

This study focused only on private universities, since public universities did not respond to our requests and their internal processes were slower. Also, the data collection had to be completed within three weeks due to the thesis schedule, which made it difficult to include qualitative methods such as interviews or open-ended surveys. Adding those would have offered a deeper look into the emotional and cultural sides of ESD integration.

Suggestions for Future Research

Future studies should include both numbers and personal perspectives, combining surveys with interviews or group discussions. Research that follows changes over time would also help show whether ESD strategies are making a difference. A national-level project could compare public and private universities and look at how ESD connects to student outcomes or broader development goals. Finally, researchers could work with government agencies to build a "Georgian ESD Leadership Index," which could be used to measure how well universities are supporting sustainability and guide future improvements.

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