

# Fostering leadership learning for applied problem-solving: Navigating the crossroads of the sustainable development goals and immersive experiential learning

Anthony C. Andenoro PhD<sup>1</sup> | David Brown PhD<sup>2</sup> | Kelly Cerialo PhD<sup>3</sup> | Robert M. McManus PhD<sup>4</sup>

<sup>1</sup>University Advancement, William Woods University, Fulton, Missouri, USA

<sup>2</sup>Biology and Environmental Science, Marietta College, Marietta, Ohio, USA

<sup>3</sup>Business and Hospitality, Paul Smith's College, Paul Smiths, New York, USA

<sup>4</sup>Applied Leadership, Muskingum University, New Concord, Ohio, USA

## Correspondence

Tony Andenoro, University Advancement, William Woods University, Fulton, MO 65251, USA.

Email: [Tony.Andenoro@williamwoods.edu](mailto:Tony.Andenoro@williamwoods.edu)

## Abstract

This paper highlights how immersive educational experiences can help students understand the United Nations' Sustainable Development Goals (SDGs) and their relation to leadership. The paper provides an example of how a carefully designed faculty-led program using original research can cultivate cross-cultural competencies and build student knowledge and skills to support sustainability. Educators can use this paper as a guide to other immersive experiences to address the SDGs while developing student leadership capacity.

## INTRODUCTION AND STATEMENT OF THE PROBLEM

Leadership learning is an applied interdisciplinary pursuit that extends well beyond the traditional academic classroom to impact the organizations and communities of our complex world. As such, the interdisciplinary contexts of leadership learning within the space of higher education have been called to prepare leadership learners to address the complex challenges of our world for decades (Andenoro et al., 2017; Brungardt, 1996; Guthrie & Jenkins, 2018; Huber, 2002; Rost & Barker, 2000). During this time, leadership educators have been confronted with possibly the most pertinent question of all—leadership for what? This question is both the beginning of the leadership learning process, providing a target for the educator's efforts, and the ultimate measure of leadership learning's impact on the sustainable development and preservation of our world. Hence, it is paramount to provide context for the critical challenges leadership educators and learners face in tandem with our global communities.

Our understanding of these critical challenges is supplemented by a wealth of resources, calls to action, and strategic reports including, but not limited to the Bill & Melinda Gates Foundation Global Grand Challenges, the former White House 21st Century Challenges,

the current Biden-Harris Administration Immediate Priorities, the United States Agency for International Development (USAID) Grand Challenges for Development, the Food and Agricultural Organization (FAO) Strategic Framework 2022–31, The Center for Strategic & International Studies Priority Areas, and the World Economic Forum Strategic Intelligence Platform. However, the most often cited trajectory for sustainability is the United Nations (UN) Sustainable Development Goals (SDGs).

The SDGs are replete with opportunities for leadership educators to contextualize their content and learning environments and the accompanying challenges for leadership learners tasked with serving our world as the next generation of leaders. Further, they offer focused objectives that can guide leadership educators' competence and capacity for sharing knowledge and context for our world, fostering dialogue, and shaping action to promote sustainable change by 2030. Subsequently, they create a pathway for the promise and practice that lead to tangible outcomes and a better world for future generations. At the time of publication, the SDGs have led to 6087 actions, 3173 events, and 1322 publications addressing 169 targets stemming from the 17 goals (United Nations Department of Economic and Social Affairs, 2022). However, increasing polarization, politicization, and denialism challenge the members of our global communities' competence, capacity, and willingness to engage in and supplement the efforts associated with the SDGs. Further, society's focus often favors immediate gratification, over long-term sustainable outcomes, creating significant challenges for leadership educators attempting to cultivate agency and adaptive leadership aimed at longitudinal efforts to achieve the SDGs (Cheng et al., 2012; O'Donoghue & Rabin, 2000; Oluyomi, 2015). While a sustainable future grounded in the achievement of the SDGs by 2030 provides a daunting challenge for our next generation of leaders and the leadership educators that will work with them, action is not optional. It is imperative. As noted by Andenoro and Skendall (2020),

...it is incumbent upon leadership educators and practitioners to assume the responsibility and promise of quality leadership education that meets local, national, and global challenges and contributes meaning and value for the diverse populations of our world. (p. 37)

This concerted effort is inherently linked to and grounded in the work of the SDGs. However, a question remains: how can leadership educators constructively shape experiences to help leadership learners understand the depth and complexity of the SDGs while building leadership capacity to address them?

While the research regarding the intersection of leadership learning and sustainable development through study abroad programs expands, there remains a limited amount of empirical research that explores the use of SDGs as a learning framework for short-term faculty-led study abroad programs. Immersion-based experiential leadership learning has the potential to provide a compelling option for leadership educators reflecting on the previously noted question.

When done well, immersive experiences can be transformational for learners, creating a powerful foundation for their future leadership practice (Earnest, 2003; Montgomery & Arensdorf, 2012; Rosch & Haber-Curran, 2013), and can have significant benefit for the host communities (Schroeder et al., 2009; Wood et al., 2011). However, when facilitated poorly, the experience can further perpetuate social paradigms grounded in privilege and contribute to the erosion of economic viability through non-sustainable aid (Andenoro & Bletscher, 2012; Woolf, 2011). Thus, it is critical for leadership educators to approach immersive experiences and leadership learning cautious of the pitfalls that may exist. This article provides strategic insights and tangible examples at the intersection

of immersive experiential learning and the SDGs. It provides possibilities for leadership learning environments and leadership educators that extend beyond the traditional classroom, develops critical capacity for sustainable leadership practice in our leadership learners, and creates a foundation for achieving the SDGs by 2030.

## LITERATURE REVIEW

The need for globally educated leaders is well established in leadership education literature (Chin et al., 2001; Goldsmith et al., 2003; Hart, 2006; Kedia & Daniel, 2003). Scholars have been calling on leadership programs to adapt to the changes brought about by globalization and arguing that the main purpose of leadership development is to encourage recognition of global issues through such experiences as studying abroad, operating in multicultural group settings, and training in foreign languages (Perruci, 1999).

Earnest (2003) echoed this call while placing an emphasis on the importance of study-abroad opportunities incorporating leadership education and development. Earnest (2003) argued it is important for international leaders to be skilled at interacting with people from diverse linguistic and social backgrounds. Carefully planned study abroad programs are effective avenues to achieve such skills. Additionally, such experiences help cultivate critical leadership competencies including effective communication, self-reflection, problem-solving, team building, and managing diverse stakeholders (Earnest, 2003).

Likewise, leadership educators Moore et al. (2009) suggested a leadership challenge currently impeding many is the fact that developing “globally literate leaders” (p. 17) is an idea that has been given minimal attention. Students do not concern themselves with globalization and, hence, are effectively globally illiterate. To combat this issue, the authors’ “proposed approach to globally literate leaders involves a series of problem-based courses and a required international experience” (Moore et al., 2009, p. 17). They also argue that such a curriculum could make use of diversity on campuses.

Sachau et al. (2010) identified the need for students to be cross-culturally competent and provide three models by which short-term study-abroad experiences can address this need. These authors focus on three short-term study abroad types: summer semesters abroad, study tours, and service-learning trips. They identify that an advantage of such trips is the development of a better understanding of course-related material, while also noting that it is easier for students to better comprehend the concepts of certain disciplines, in this case, leadership, once they experience it themselves. They also note that such experiences expose students to the subtleties of a culture in a way that is not possible from a book or class. Lastly, the authors argue that a study abroad trip alters the student’s own self-perceptions as it clarifies stereotypes gained from the home culture.

Finally, Irving (2010) wrote about the importance of providing a holistic view of intercultural competence, interpreting the importance for leaders, and providing examples of how educational institutions may implement procedures to develop competence in leaders. As the world globalizes and becomes more interdependent, Irving (2010) argued leaders who possess this intercultural competence will be vital to the future.

## Original research in faculty-led study abroad programs

Simply studying abroad is not a panacea to developing globally educated leaders. Study abroad trips and programs can be quite insular and fail to challenge students to engage

with local people in the culture they are visiting. Effective educators ensure students are placed in situations where they must interact with people within the local culture in meaningful ways. This is where original research can be beneficial. By requiring students to conduct surveys or other forms of research in the field with local populations, students interact with people from a culture other than their own in a purposeful way. Thus, by engaging with local populations in the field and collecting survey data, students gain research experience.

The benefits of undergraduates taking part in original research beyond a standard research methods course have been well documented (Gibson et al., 1996; Kierniesky, 1984; Landrum & Neslen, 2002; Purdy et al., 1989). Students involved in such experiences are better prepared for graduate school (Baird, 1990; Hartmann, 1990). There are also a host of other positive educational outcomes associated with undergraduate research, such as enhancing critical and analytical thinking and developing leadership skills (Lei & Chuang, 2009). Institutions such as the Association of American Colleges and Universities (2002) advocated for more opportunities for undergraduates to engage in original research. The Council on Undergraduate Research (2011) cited benefits from undergraduate research including enhanced student learning through mentoring relationships with faculty; increased retention; increased enrollment in graduate education and effective career preparation, as well as developing critical thinking and creative problem-solving. An extensive report commissioned by The Higher Education Academy in the United Kingdom argued undergraduate research should be at the center of the undergraduate experience (Healey & Jenkins, 2009). In addition to positioning research at the center of undergraduate education, there is an increased effort in higher education to integrate concepts of sustainable development into course curriculum to expand students' understanding of critical global sustainable development issues (Grano & Prieto, 2020).

## SDGs in higher education

The United Nations' 17 Sustainable Development Goals (SDGs) aim to solve the most pressing global challenges including quality education, poverty, peace, justice, climate change, and environmental degradation (United Nations, n.d.). In an effort to mobilize member states to address the SDGs and to assist with monitoring, the UN introduced indicators and targets in 2017 which provided a framework for governments, nongovernment organizations, community groups, and higher education institutions (HEIs) to begin addressing the world's most pressing sustainable development challenges (United Nations, n.d.). HEIs play an integral role in promoting sustainable development in their countries and local communities (McCowan, 2016; Owens, 2017; Ramísio et al., 2019; Sonetti et al., 2019). HEIs educate future generations about the critical sustainability issues of our time, while providing scientific research, technical solutions, and mobilizing social change regionally and nationally, and facilitating community outreach (Grano & Prieto, 2020).

Scholars strongly emphasized the need for HEIs to integrate sustainable development education into their curricula to improve sustainability competences of students and to prepare future professionals to address complex sustainable development challenges (Rieckman, 2012; Sibble, 2009; Svanstrom et al., 2008; Thomas, 2004). Noonan and Thomas (2004) echoed this need and argued sustainable development education builds culture and presents opportunities for research funding to examine the vital sustainability issues of our time. Păunescu et al. (2017) urged that faculties must leave their ivory towers to address the needs of society, and this begins with challenges related to sustainable development.

To address these goals, many multinational organizations and international scholars believe teaching approaches and curriculum should focus on sustainability-centered education (Anderberg et al., 2009; Krizek et al., 2012; Littledyke et al., 2013; Liu, 2011; Shephard, 2010; UNESCO, 2016) while taking a whole-person approach to educating students (Wu & Shen, 2016) that cultivates positive social, ethical, and emotional development by encouraging social engagement and service to one's community. UNESCO (2017) argued faculties are the primary drivers for reforming educational processes and shifting educational institutions toward sustainability. Barth and Michelsen (2013) posited that education for sustainable development can facilitate valuable interdisciplinary collaborations and also has the potential to change individual actions and behaviors which will benefit present and future generations.

## **Sustainable development education in faculty-led study abroad programs**

Although there is a growing body of literature discussing education for sustainable development in study abroad programs, currently there is a limited amount of research exploring the use of SDGs as a learning framework for short-term faculty-led study abroad programs. Keese and O'Brien (2011) defined faculty-led programs (FLPs) as "credit granting college-level study abroad programs where faculties accompany students from their universities as teachers and trip leaders" (p. 5). FLPs aim to provide students with purposefully designed learning experiences that promote cross-cultural competencies, global citizenship, and multidisciplinary approaches to global issues among other outcomes (Aktas et al., 2017; Di Gregorio, 2015; Keese & O'Brien, 2011; Mullens & Cuper, 2012). Additionally, FLPs give faculty opportunities to educate and mentor students through critical learning and life-changing experiences outside of the classroom (Keese & O'Brien, 2011). With the pre-COVID pandemic growth and diversification in international FLPs, faculty and higher education institutions have explored the potential of study abroad as a platform for teaching about sustainable development (Kioupi & Voulvoulis, 2019).

Long et al. (2014) suggested the conceptual linkages between sustainable development education and study abroad programs are tightly coupled. The calls for global citizenship and sustainability have emerged as two of the leading themes in contemporary higher education over the past decade. Both can be integrated into study-abroad curricula to create valuable student outcomes (Long et al., 2014). Similarly, Tarrant (2010) argued that cultivating global awareness through study abroad programs may foster a more comprehensive understanding of sustainability in students. Study abroad programs also better position students to increase global competence to address urgent environmental issues including climate change and loss of biodiversity (Tarrant, 2010). The United Nations Environment Programme (2005) suggested traveling also enables people to develop a sense of place attachment, learn about other cultures, and contribute to local economies, all of which have the potential to contribute to the sustainable development of a host destination.

## **Challenges and opportunities in faculty-led study abroad programs**

Although sustainability focused FLPs offer a multitude of benefits to students and faculty, there is an inherent contradiction in study abroad trips focused on sustainability since international travel has significant negative ecological impacts; particularly due to the carbon emissions related to various forms of travel (Dvorak et al., 2011). For this reason, it is

imperative for faculty to assess if the benefits of an FLP for youth leadership development, education, and fostering cross-cultural competency outweigh its negative environmental impacts.

To mitigate this problem, Dvorak et al. (2011) urged faculty to design FLPs by considering the social, ecological, and economic impacts of their program, because the content and design of study abroad experiences influence the degree to which students learn and apply sustainable practices taught in an international context. Tarrant et al. (2014) further supported this argument with their quasi-experimental study that found short-term international FLP curriculum focused on sustainability and experiential learning increased students' global citizenry rates more significantly than sustainability classes taught on-campus or international FLPs that did not include sustainability experiential learning. It was also reported that students who completed short-term international FLPs focused on sustainability became more ecologically conscious consumers (Tarrant et al., 2014).

Landon et al. (2019) conducted research on international FLPs focused on sustainability to assess if study-abroad experiences were an effective method to shift students' beliefs about climate change. Results indicated students' participation in an international FLP had the potential to change their beliefs about climate change and that an individual's "environmental worldview" (p. 292) and "affective connection to nature" (p. 294) were two strong predictors of beliefs about climate change. Correspondingly, to assess if students' participation in international FLPs influenced sustainability beliefs and practices, scholars Bell et al. (2016) and Strange and Gibson (2017) applied transformative learning as a theoretical lens. Bell et al. (2016) found international FLPs presented students with new experiences and perspectives about sustainability that encouraged them to question existing norms and prior beliefs. Ultimately, students developed a greater awareness of sustainability and formed new behaviors including daily sustainability practices (Bell et al., 2016). In Strange and Gibson's (2017) study, students' accounts about their international FLPs experiences suggested transformative learning had occurred due to the experiential opportunities that were built into the program including interactions with local community members and field trips. Collectively, these findings demonstrate how international FLPs focused on sustainability can positively influence students' sustainability practices and perceptions.

The program detailed below provides an example of how a carefully designed FLP, which includes original research and sustainable development, can cultivate cross-cultural competencies, and build student leadership capacities to support sustainability.

## APPLICATION OF PRACTICE

This section outlines a faculty-led, short-term international study abroad program offered in a partnership between two universities in the United States. The experience is coupled with a course that serves as an elective in leadership studies at both institutions. The course is designed to specifically address SDG 13 – Climate action, although SDG 14 – Life below water, SDG 15 – Life on land, and SDG 7 – Affordable and clean energy may all be considered as secondary topics.

Through the trip, students travel to Costa Rica and Belize, visit Mayan ruins to examine the role of environmental degradation in the demise of the Mayan Empire, snorkel in the Marine Protected Areas off the coast of Belize, visit the seasonal dry forests and rainforests of Costa Rica, and study with current day environmental leaders seeking to protect ecosystems in Central America. The course also includes a service project designed to address environmental sustainability and leadership. Throughout the trip, students

meet with leaders in the area of conservation in both government and nongovernmental organizations to discuss their leadership approaches, challenges, and success. Before departure and throughout the trip students read a series of articles to prepare them for understanding the scientific, theoretical, historical, and cultural issues surrounding conservation and leadership. As part of the course, students conduct a literature review on a topic related to sustainability, as well as surveying local residents on their attitudes regarding conservation and leadership and then write an analytical report interpreting the data and discussing how the survey results relate to their topic. Finally, students participate in an extensive service project to offset the carbon emissions generated by their experience. The most recent trips included planting roughly 1000 trees in the Costa Rican rainforest. This project also had a connection to the local community as the seedlings used in this service project were raised by students in a local elementary school.

The original research student's conduct differentiates the course from many other short-term study abroad programs and specifically links the course to SDG 13 – Climate action featured in the course. Using a survey modeled on a Yale Center for Environmental Law and Policy survey (Yale Environment, 2007) used to measure US perceptions and attitudes regarding conservation, sustainability, and global climate change, students engage with local people in Costa Rica and Belize to understand similarities and differences across cultures. With the course goals aimed at educating students about SDG 13 – Climate action, the students conduct original research to better understand the connection between the natural environment and leadership and how these can impact our ability to address climate change. The course objectives as they relate to the SDGs are to help students to:

- Understand the ways leaders work with followers within their context and culture to achieve the goal of conservation and environmental sustainability
- Value the importance of environmental sustainability and conservation as the context for leadership
- Appreciate the emerging “eco-leader” paradigm and the connections between good leadership and concern for nature. (Western, 2010)

## Assignment

The major course assignment uses questions from the 2007 Environment Survey administered by the Yale Center for Environmental Law and Policy (Yale Environment, 2007), and includes demographic questions as well as questions to more directly address topics that would be covered in the course. The students identify the topics covered by the survey questions they are most interested in focusing on for their research project and that specifically focus on climate action. Topics have included: the personal impacts and efforts to reduce impacts of climate change; the role of government in addressing climate change; forest and water resources; conservation and sustainability efforts; knowledge about environmental issues; sources of information on environmental issues; wildlife conservation as it relates to hunting and fishing; and wildlife habitat preservation.

Next, students critically read the survey and make suggestions on possible changes. They are also expected to begin doing general research on their topic and suggest any questions on their topic that they would like to have added to the survey. Once the survey was finalized it was translated into Spanish and a proposal for administering the survey was submitted to the institutional review board/human subjects committees for approval. The students were informed about this approval process and had access to the proposal that was submitted. As part of the approval process, the students were also required to take and

obtain certification for research work with human subjects through a National Institutes of Health web-based training course.

During the trip, students were given surveys and went out in pairs asking people to fill out the survey. A pair of students was usually given three to seven surveys, depending on the size of the community in each location visited. Their goal was to collect at least 100 fully completed surveys in each of the countries. In addition to collecting survey data, students were also encouraged to talk to the people they surveyed about their research topic and ask questions about their topic when they met with conservation leaders during the trip. Students journaled about these experiences throughout the trip. During the course, students were also encouraged to share their observations with the group. This often occurred in discussions over meals or when traveling from one location to another.

Following the trip, the survey data was compiled and shared with the class. The students submitted a detailed outline for their paper one month before the deadline and were provided with suggestions based on the outline. In particular, students were encouraged to relate the results from the survey and note any differences between the results obtained in the United States and the results that they obtained in the countries visited. Students were also encouraged to relate those results to the course readings, observations that they made on the trip, and conversations they had with survey participants or guest speakers. The overarching goal was to get students to triangulate data that they collected with information on their research topic obtained from literature sources.

To summarize, a faculty-led study abroad program can incorporate original undergraduate student research as a pedagogical model to draw attention to the United Nations' Sustainable Development Goal of Climate Action. The course described here specifically focused on environmental leadership in Costa Rica and Belize. The research component was based upon the aforementioned Yale survey and students compared US perceptions of environmental issues with survey data they collected from populations in the countries visited. Undergraduate student research, such as the program described in this article, can be a compelling way to engage students to deepen their understanding of the UN Sustainable Development Goals.

Thus far this paper has highlighted the literature surrounding FLPs, the role of the SDGs in higher education, sustainable development education, challenges, and opportunities for FLPs, and detailed an example of a FLP program to address specific SDGs. The authors now consider the recommendations and implications for educators wishing to implement such a program.

## **PRACTITIONER RECOMMENDATIONS, IMPLICATIONS, AND CONCLUSIONS**

The preceding literature review and example provide the reader with a perspective on how to develop and facilitate leadership learning aimed at addressing SDGs within FLPs and study-abroad opportunities. Practitioners can use this as a guide in an effort to provide leadership students with a more holistic approach to addressing authentic challenges (the SDGs) with authentic populations (indigenous and local populations) within authentic FLPs. This leads to the development of perspective for the SDGs, but more importantly, it cultivates adaptive leadership capacity, systems-thinking, and agency with respect to addressing complex problems (Andenoro et al., 2017). As such, the authors advocate for reflection upon and possible revision of immersive leadership learning experiences such as faculty-led study abroad opportunities.

Considering backwards design (Wiggins & McTighe, 2011), it is incumbent upon leadership educators to frame learning outcomes for courses and experiences through the lens of what students should be able to know, think, and do with respect to the SDGs upon completion of the course. Assessments of learning should be both formative and summative and contextualized within project or challenge-based assignments allowing for students to demonstrate mastery of the course or experience's learning objectives while maximizing benefit for both the students and the communities that they are visiting. Finally, the content should be grounded in an approach to the SDGs in which students have agency (Biesta & Tedder, 2007; Eteläpelto et al., 2013; Gallagher, 2007; McNay, 2004). More specifically, this contextualization should include content and delivery modalities that develop an understanding of the past, context for the present, foresight for the future, while cultivating a propensity for agency (Andenoro et al., 2017).

In addition, the use of FLPs to address the SDGs provides accessibility to leadership students. Accessibility can be a powerful tool in cultivating a predisposition for service aligned with the advancement of the SDGs, organizational commitment, and community development within leadership students (Andenoro & Bletscher, 2012; Bell et al., 2016; Di Gregorio, 2015; Earnest, 2003; Irving, 2010; Lokkesmoe et al., 2016; Montgomery & Arensdorf, 2012). This has the potential to be transformative for the leadership student, as once someone has access to leadership learning there is a tendency to explore other opportunities that might exist to continue growing in this direction.

## Implications

There are far-reaching implications for an intentional approach to inclusion of the SDGs with immersive leadership learning. The noted practice has significant intellectual merit and broader impact on the interdisciplinary fields of leadership education, development, and studies, and society at large. Intellectual merit is created through inclusion of the SDGs within the immersive experience by advancing a systems approach to leadership learning. Through the lens of the SDG and the supporting context, leadership students are forced to utilize an interdisciplinary approach including natural and social sciences to create an integrated whole for addressing the SDGs in hopes of developing solutions. This furthers each of the individual fields, informs the interdisciplinary space of leadership, and provides a tangible application of leadership practice that predisposes learners to practice leadership in the future. Subsequently, broader impact is achieved through the application of solutions within the immersive context. This advances our collective society and the organizations and communities within it. Although this article has focused on short-term-faculty-led study abroad, we invite readers to consider ways they might adapt this approach in other contexts such as in their home countries or underserved communities.

## CONCLUSIONS

Leadership and leadership educators find themselves at a crossroads, as increased cultural and political polarization, social isolationism, and denialism divide our perspectives and population. This, coupled with the global pandemic preventing international travel, has led to more nationalist and localized perspectives in our learners within higher education spaces (Pederson et al., 2021). However, the preceding practice of integrating the SDGs into the experiences inherent to immersive leadership learning provides an opportunity to cultivate true leadership for global good in our leadership learners. Ultimately, the preceding

practice creates the opportunity for two things: (1) the foundation for a deepening of leadership learning further legitimizing it as a valued interdisciplinary space within higher education, and (2) leadership students who are able to explain the depth of issues and what they are doing to sustainably address these issues, not because they have read about it on the internet or seen it on social media, but because they have walked with the people who live it and they have made the issues their own. This is the foundational impetus for a better world grounded in an agency for change and the advancement of the SDGs.

## REFERENCES

- Aktas, F., Pitts, K., Richards, J. C., & Silova, I. (2017). Institutionalizing global citizenship: A critical analysis of higher education programs and curricula. *Journal of Studies in International Education*, 21(1), 65–80. <https://doi.org/10.1177/1028315316669815>
- Andenoro, A. C., & Bletscher, C. G. (2012). Transforming the international learning experience for students: Moving beyond the principle of accompaniment. *Journal of Leadership Studies*, 6(1), 52–57. <https://doi.org/10.1002/jls.21228>
- Andenoro, A. C., & Skendall, K. C. (2020). The national leadership education research agenda 2020–2025: Advancing the state of leadership education scholarship. *Journal of Leadership Studies*, 14(3), 33–38. <https://doi.org/10.1002/jls.21714>
- Andenoro, A. C., Sowcik, M. J., & Balser, T. C. (2017). Addressing complex problems: Using authentic audiences and challenges to develop adaptive leadership and socially responsible agency in leadership learners. *Journal of Leadership Education*, 16(4), 2–19. <https://doi.org/10.12806/V16/I4/R1>
- Anderberg, E., Nordén, B., & Hansson, B. (2009). Global learning for sustainable development in higher education: Recent trends and a critique. *International Journal of Sustainability in Higher Education*, 10(4), 368–378. <https://doi.org/10.1108/14676370910990710>
- Association of American Colleges and Universities. (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Association of American Colleges and Universities.
- Baird, L. L. (1990). The undergraduate experience: Commonalities and differences about colleges. *Research in Higher Education*, 31(3), 271–278. <https://doi.org/10.1007/BF00992312>
- Barth, M., & Michelsen, G. (2013). Learning for change: An educational contribution to sustainability science. *Sustainability Science*, 8(1), 103–119. <https://doi.org/10.1007/s11625-012-0181-5>
- Bell, H. L., Gibson, H. J., Tarrant, M. A., Perry III, Y. G., & Stoner, L. (2016). Transformational learning through study abroad: US students' reflections on learning about sustainability in the South Pacific. *Leisure Studies*, 35(4), 389–405. <https://doi.org/10.1080/02614367.2014.962585>
- Biesta, G., & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults*, 39(2), 132–149. <https://doi.org/10.1080/02660830.2007.11661545>
- Brungardt, C. (1996). The making of leaders: A review of the research in leadership development and education. *Journal of Leadership studies*, 3(3), 81–95. <https://doi.org/10.1177/107179199700300309>
- Cheng, Y. Y., Shein, P. P., & Chiou, W. B. (2012). Escaping the impulse to immediate gratification: The prospect concept promotes a future-oriented mindset, prompting an inclination towards delayed gratification. *British Journal of Psychology*, 103(1), 129–141. <https://doi.org/10.1111/j.2044-8295.2011.02067.x>
- Chin, C. O., Gu, J., & Tubbs, S. L. (2001). Developing global leadership competencies. *Journal of Leadership Studies*, 7(4), 20–31. <https://doi.org/10.1177/107179190100700402>
- Council on Undergraduate Research. (2011). Fact Sheet, 2011. [www.cur.org/about\\_cur/fact\\_sheet/](http://www.cur.org/about_cur/fact_sheet/)
- Di Gregorio, D. (2015). Fostering experiential learning in faculty-led study-abroad programmes. In V. Taras, & M. A. Gonzalez-Perez (Eds.), *The Palgrave handbook of experiential learning in international business* (pp. 569–584). Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-20415-0>
- Dvorak, A. M., Christiansen, L. D., Fischer, N. L., & Underhill, J. B. (2011). A necessary partnership: Study abroad and sustainability in higher education. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 21(1), 143–166. <https://doi.org/10.36366/frontiers.v21i1.307>
- Earnest, G. W. (2003). Study abroad: A powerful new approach for developing leadership capacities. *Journal of Leadership Education*, 2(2), 46–56. [https://journalofleadershiped.org/jole\\_articles/study-abroad-a-powerful-new-approach-for-developing-leadership-capacities/](https://journalofleadershiped.org/jole_articles/study-abroad-a-powerful-new-approach-for-developing-leadership-capacities/)
- Eteläpelto, A., Vähäsantanen, K., Hökkä, P., & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review*, 10, 45–65. <https://doi.org/10.1016/j.edurev.2013.05.001>
- Gallagher, S. (2007). The natural philosophy of agency. *Philosophy Compass*, 2(2), 347–357. <https://doi.org/10.1111/j.1747-9991.2007.00067.x>
- Gibson, P. R., Kahn, A. S., & Mathie, V. A. (1996). Undergraduate research groups: Two models. *Teaching of Psychology*, 23(1), 36–38. [https://doi.org/10.1207/s15328023top2301\\_7](https://doi.org/10.1207/s15328023top2301_7)

- Goldsmith, M., Greenberg, C. L., Robertson, A., & Hu-Chan, M. (2003). Global leadership: The next generation. Financial Times/Prentice-Hall. <http://www.marshallgoldsmithlibrary.com/html/books/globalLead.htm>
- Grano, C., & Prieto, V. C. (2020). Sustainable Development Goals in higher education. In 26th IJCIEOM–International Joint Conference on Industrial Engineering and Operations Management., Rio de Janeiro. 10.14488/IJCIEOM2020\_FULL\_0010\_37277
- Guthrie, K. L., & Jenkins, D. M. (2018). *The role of leadership educators: Transforming learning*. Information Age Publishing.
- Hart Research Associates. (2006). How should colleges prepare students to succeed in today's global economy? Conducted on behalf of the Association of American Colleges and Universities. Peter D. Hart Research Associates. [https://www.aacu.org/sites/default/files/files/LEAP/2007\\_full\\_report\\_leap.pdf](https://www.aacu.org/sites/default/files/files/LEAP/2007_full_report_leap.pdf)
- Hartmann, D. J. (1990). Undergraduate research experience as preparation for graduate school. *The American Sociologist*, 21(2), 179–188.
- Healey, M., & Jenkins, A. (2009). *Developing undergraduate research and inquiry*. The Higher Education Academy.
- Huber, N. S. (2002). Approaching leadership education in the new millennium. *Journal of Leadership Education*, 1(1), 25–34. [https://journalofleadershiped.org/jole\\_articles/approaching-leadership-education-in-the-new-millennium/](https://journalofleadershiped.org/jole_articles/approaching-leadership-education-in-the-new-millennium/)
- Irving, J. A. (2010). Educating global leaders: Exploring intercultural competence in leadership education. *Journal of International Business and Cultural Studies*, 3, 1–14. <http://www.aabri.com/manuscripts/09392.pdf>
- Kedia, B. L., & Daniel, S. (2003). US business needs for employees with international expertise. *Proceedings of the needs for global challenges conference*. Duke University. [https://ducis.jhfc.duke.edu/archives/globalchallenges/pdf/kedia\\_daniel.pdf](https://ducis.jhfc.duke.edu/archives/globalchallenges/pdf/kedia_daniel.pdf)
- Keese, J. R., & O'Brien, J. (2011). Learn by going: Critical issues for faculty-led study-abroad programs. *The California Geographer*, 51, 3–24. <http://hdl.handle.net/10211.2/2818>
- Kierniesky, N. C. (1984). Undergraduate research in small psychology departments. *Teaching of Psychology*, 11(1), 15–18.
- Kioui, V., & Voulvoulis, N. (2019). Education for sustainable development: A systemic framework for connecting the SDGs to educational outcomes. *Sustainability*, 11(21), 6104. <https://doi.org/10.3390/su11216104>
- Krizek, K. J., Newport, D., White, J., & Townsend, A. R. (2012). Higher education's sustainability imperative: How to practically respond? *International Journal of Sustainability in Higher Education*, 13(1), 19–33. <https://doi.org/10.1108/14676371211190281>
- Landon, A. C., Woosnam, K. M., Keith, S. J., Tarrant, M. A., Rubin, D. M., & Ling, S. T. (2019). Understanding and modifying beliefs about climate change through educational travel. *Journal of Sustainable Tourism*, 27(3), 292–307. <https://doi.org/10.1080/09669582.2018.1560452>
- Landrum, R. F., & Nelsen, L. R. (2002). The undergraduate research assistantship: An analysis of the benefits. *Teaching of Psychology*, 29(1), 15–19. [https://doi.org/10.1207/S15328023TOP2901\\_04](https://doi.org/10.1207/S15328023TOP2901_04)
- Lei, S., & Chuang, N. (2009). Undergraduate research assistantship: A comparison of benefits and costs from faculty and students' perspectives. *Education*, 130(2), 232–240.
- Littledyke, M., Manolas, E., & Littledyke, R. A. (2013). A systems approach to education for sustainability in higher education. *International Journal of Sustainability in Higher Education*, 14(4), 367–383. <https://doi.org/10.1108/IJSHE-01-2012-0011>
- Liu, L. (2011). Where in the world of sustainability education is US geography? *Journal of Geography in Higher Education*, 35(2), 245–263. <https://doi.org/10.1080/03098265.2010.548086>
- Lokkesmoe, K. J., Kuchinke, K. P., & Ardichvili, A. (2016). Developing cross-cultural awareness through foreign immersion programs: Implications of university study abroad research for global competency development. *European Journal of Training and Development*, 40(3), 155–170. <https://doi.org/10.1108/EJTD-07-2014-0048>
- Long, J., Vogelaar, A., & Hale, B. W. (2014). Toward sustainable educational travel. *Journal of Sustainable Tourism*, 22(3), 421–439. <https://doi.org/10.1080/09669582.2013.819877>
- Moore, L. L., Boyd, B. L., Rosser, M. H., & Elbert, C. (2009). Developing an international agricultural leadership program to meet the needs of a global community. *Journal of Leadership Education*, 8(1), 118–129. <https://doi.org/10.12806/v8/i1/ib2>
- McCowan, T. (2016). Universities and the post-2015 development agenda: An analytical framework. *Higher Education*, 72(4), 505–523. <https://doi.org/10.1007/s10734-016-0035-7>
- McNay, L. (2004). Agency and experience: Gender as a lived relation. *The Sociological Review*, 52(2), 173–190. <https://doi.org/10.1111/j.1467-954X.2005.00530.x>
- Montgomery, J. E., & Arensdorf, J. (2012). Preparing globally competent leaders through innovative study abroad experiences. *Journal of Leadership Studies*, 6(1), 64–71. <https://doi.org/10.1002/jls.21230>
- Mullens, J. B., & Cuper, P. (2012). *Fostering global citizenship through faculty led international programs*. Information Age Publishing.
- Noonan, D., & Thomas, I. (2004). Greening universities in Australia: Progress and possibilities. *Australian Journal of Environmental Education*, 20(2), 67–79. <https://doi.org/10.1017/S0814062600002214>

- O'Donoghue, T., & Rabin, M. (2000). The economics of immediate gratification. *Journal of Behavioral Decision Making*, 13(2), 233–250. [https://doi.org/10.1002/\(SICI\)1099-0771\(200004\)0613:2<233::AID-BDM325>3.0.CO;2-U](https://doi.org/10.1002/(SICI)1099-0771(200004)0613:2<233::AID-BDM325>3.0.CO;2-U)
- Oluyomi, T. (2015). *Reducing the bias towards immediate gratification with episodic future thinking* (Doctoral dissertation, State University of New York at Buffalo).
- Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, 52(4), 414–420. <https://doi.org/10.1111/ejed.12237>
- Păunescu, C., Drăgan, Gilmeanu, D., & Găucă, O. (2017). Examining obligations to society for QS Stars best ranked universities in social responsibility. *Management & Marketing Challenges for the Knowledge Society*, 12(4), 551–570. <https://doi.org/10.1515/mmcks-2017-0033>
- Pedersen, E. R., Fitzke, R. E., Bouskill, K. E., & Sedano, A. (2021). A qualitative look at the impact of the COVID-19 pandemic on American college students studying abroad. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 33(3), 70–100. <https://doi.org/10.36366/frontiers.v33i3.602>
- Perruci, G. (1999). Leadership studies program in the context of globalization. *Proceedings of the 1999 annual meeting of the International Leadership Association*, Atlanta, GA. Retrieved June 24, 2003, from <http://www.ila-net.org/publications/proceedings/1999/gperruci.pdf>
- Purdy, J. E., Reinehr, R. C., & Swartz, J. D. (1989). Graduate admissions criteria of leading psychology departments. *American Psychologist*, 44(6), 960–964. <https://doi.org/10.1037/0003-066X.44.6.960>
- Ramísio, P. J., Pinto, L. M. C., Gouveia, N., Costa, H., & Arezes, D. (2019). Sustainability strategy in higher education institutions: Lessons learned from a nine-year case study. *Journal of Cleaner Production*, 222, 300–309. <https://doi.org/10.1016/j.jclepro.2019.02.257>
- Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, 44(2), 127–135. <https://doi.org/10.1016/j.futures.2011.09.005>
- Rosch, D. M., & Haber-Curran, P. (2013). Learning leadership abroad: An overview of a short-term leadership-focused study abroad program in Italy. *Journal of Leadership Education*, 7(2), 148–154. <https://doi.org/10.12806/V12/I2/A3>
- Rost, J. C., & Barker, R. A. (2000). Leadership education in colleges: Toward a 21st century paradigm. *Journal of Leadership Studies*, 7(1), 3–12. <https://doi.org/10.1177/107179190000700102>
- Sachau, D. A., Brasher, N., & Fee, S. (2010). Three models for short-term study abroad. *Journal of Management Education*, 34(5), 645–670. <https://doi.org/10.1177/1052562909340880>
- Schroeder, K., Wood, C., Galiardi, S., & Koehn, J. (2009). First, do no harm: Ideas for mitigating negative community impacts of short-term study abroad. *Journal of Geography*, 108(3), 141–147. <https://doi.org/10.1080/00221340903120866>
- Shephard, K. (2010). Higher education's role in 'education for sustainability'. *Australian Universities' Review*, 52(1), 13–22. <https://files.eric.ed.gov/fulltext/EJ877043.pdf>
- Sibble, A. (2009). Pathways towards sustainability through higher education. *International Journal of Sustainability in Higher Education*, 10(1), 68–82. <https://doi.org/10.1108/14676370910925262>
- Sonetti, G., Brown, M., & Naboni, E. (2019). About the triggering of UN sustainable development goals and regenerative sustainability in higher education. *Sustainability*, 11(1), 254. <https://doi.org/10.3390/su11010254>
- Strange, H., & Gibson, H. J. (2017). An investigation of experiential and transformative learning in study abroad programs. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 29(1), 85–100. <https://doi.org/10.36366/frontiers.v29i1.387>
- Svanstrom, M., Lozano-Garcia, F. J., & Rowe, D. (2008). Learning outcomes for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, 9(3), 339–351. <https://doi.org/10.1108/14676370810885925>
- Tarrant, M. A. (2010). A conceptual framework for exploring the role of studies abroad in nurturing global citizenship. *Journal of Studies in International Education*, 14(5), 433–451. <https://doi.org/10.1177/1028315309348737>
- Tarrant, M. A., Rubin, D. L., & Stoner, L. (2014). The added value of study abroad: Fostering a global citizenry. *Journal of Studies in International Education*, 18(2), 141–161. <https://doi.org/10.1177/1028315313497589>
- Thomas, I. (2004). Sustainability in tertiary curricula: What is stopping it happening? *International Journal of Sustainability in Higher Education*, 5(1), 33–47. <https://doi.org/10.1108/14676370410517387>
- United Nations Department of Economic and Social Affairs. (2022, May 4). *Sustainable development: The 17 goals*. <https://sdgs.un.org/goals>
- United Nations (n.d.). *Sustainable development goals. Take action for the sustainable development goals*. <https://www.un.org/sustainabledevelopment/sustainable-development-goals/#:~:text=The%20Sustainable%20Development%20Goals%20are,environmental%0degradation%2C%20peace%20and%20justice>
- United Nations Environment Programme. (2005). *Making tourism more sustainable: A guide for policy makers*. <https://wedocs.unep.org/20.500.11822/8741>
- UNESCO. (2016). *Education 2030*. <http://unesdoc.unesco.org/images/0024/002456/245656E.pdf>

- UNESCO. (2017). *Education for sustainable development goals. Learning objectives*. <https://www.developmenteducation.ie/app/uploads/2017/07/Sustainabledevelopment-goals-learning-objectives-2017.pdf>
- Western, S. (2010). Eco-leadership: Toward the development of a new paradigm. In B. W. Redekop (Ed.), *Leadership for environmental sustainability* (pp. 36–54). Routledge. <https://doi.org/10.4324/9780203846995>
- Wiggins, G. P., & McTighe, J. (2011). The understanding by design guide to creating high-quality units. Assn. for Supervision & Curriculum Development (ASCD).
- Wood, C. A., Banks, S., Galiardi, S., Koehn, J., & Schroeder, K. (2011). Community impacts of international service-learning and study abroad: An analysis of focus groups with program leaders. *Partnerships: A Journal of Service-Learning and Civic Engagement*, 2(1), 1–23.
- Woolf, M. (2011). Study Abroad Changed My Life" and other problems. *International Educator*, 20(6), 52–55.
- Wu, Y.-C. J., & Shen, J.-P. (2016). Higher education for sustainable development: A systematic review. *International Journal of Sustainability in Higher Education*, 17(5), 633–651. <https://doi.org/10.1108/IJSHE-01-2015-0004>
- Yale Environment (2007). *Yale Center for Environmental Law and Policy* (undertaken by Global Strategy Group). In the authors' possession. <http://climatecommunication.yale.edu/publications/american-opinions-on-global-warming/>

**How to cite this article:** Andenoro, T., Brown, D., Cerialo, K., & McManus, R. (2023). Fostering leadership learning for applied problem-solving: Navigating the crossroads of the sustainable development goals and immersive experiential learning. *New Directions for Student Leadership*, 2023, 59–71. <https://doi.org/10.1002/yl.20569>

## AUTHOR BIOGRAPHIES

**Anthony 'Tony' C. Andenoro**, PhD, serves as the vice president and chief advancement officer for William Woods University in Fulton, MO, USA. His secondary responsibilities as professor of business allow him to contribute to the fields of leadership and business and create strategic direction for the Center for Leadership & Character at William Woods University.

**David Brown**, PhD, is a professor of biology and environmental sciences at Marietta College (Ohio, USA). He received his doctorate from Duke University. He has taught short courses on leadership and conservation in four countries in Central and South America. Brown serves as the director of the masters in Sustainability Leadership at Marietta College.

**Kelly Cerialo**, PhD, is an associate professor in business and hospitality management at Paul Smith's College in New York, USA. Her research interests include youth leadership mentoring, social impacts of tourism, UNESCO Biosphere-Reserves, protected area tourism, and sustainable tourism.

**Robert M. McManus** is the executive director of applied leadership and professor of leadership at Muskingum University (Ohio, USA). He is the co-author of *Understanding Leadership: An Arts and Humanities Perspective* and is the lead editor of *Ethical Leadership: A Primer*. McManus has designed two Master of Arts Programs in Sustainability Leadership and has published on the intersection between leadership and environmental sustainability.