

Student Engagement in Sustainability Education and Study Abroad

Subjects: Anthropology

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An investigation of the influence of sustainability education and study abroad coursework on levels of a key component of academic success, student engagement. Sustainability education and study abroad courses have broad potential to promote engagement and, as such, should be considered part of the general learning requirement of university education.

Keywords: student engagement ; sustainability education ; study abroad

1. Student Engagement

Not all educational experiences or instructional practices are equally efficacious in generating student learning. Refs. ^{[1][2]} for instance, identify a variety of such educational experiences that are loosely derived from experiential learning theory and linked to student temporal and affective engagement in their learning, and thus related also to positive student development ^{[3][4]}. These engaging experiences span both formal instruction and informal extracurricular activities while on campus or abroad. Thus, for example, the amount of time that students spend discussing course material outside of class with faculty is linked to higher levels of learning and concept retention ^[5]. Similarly, when students are asked to reflect on course material and integrate that material with knowledge obtained from other sources, greater learning occurs ^[6]. Contact with peers from a variety of cultural backgrounds is likewise related to high levels of engagement and ultimately to learning outcomes. Study abroad affords rich opportunities for several of these learning experiences. Therefore, it is unsurprisingly listed among high impact practices ^[7]. Indeed, even on-campus high engagement activities (e.g., assisting in faculty research or out-of-class peer discussion) result in heightened intercultural competencies such as ability to work with culturally diverse people and understanding complex global issues ^[7].

Generally, scholarly understanding about the impacts of engagement on student learning and development is made possible to a large degree by advances in measurement. In particular, the National Survey of Student Engagement (NSSE®) has been administered at over 1600 institutions to over five million students ^[8]. At the core of the NSSE® are a cluster of 15 items that tap “deep approaches to learning” ^{[9][10]}. Deep Learning denotes that students engage in activities, such as reading and discussing widely, that encourage understanding of underlying principles, application, and multiple perspectives. Three main domains of educational activities comprise the Deep Learning Scale: (1) Reflective, (2) Integrative, and (3) Higher Order Learning ^[11].

Reflective Learning, as the name suggests, includes educational experiences that require students to reflect on relations among newly acquired knowledge and their personal beliefs, past experiences, and knowledge. Experiential learning theorists have long contended that reflection activities are required for experiences to be made truly meaningful for participants ^[12]. Over the last decade or so, reflective principles have formed a part of scholarly inquiry into sustainability as a threshold learning concept ^{[13][14]}. Threshold learning concepts were first proposed by ^[15] as “akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress” (p. 1). The authors of the present paper have made the concept of threshold learning a core plank of our sustainability teaching, arguing that by exposing students to tourism forms that many people would see as ethically or morally suspect ^[16], students will see the inherent values-based contradictions that exist across different tourism geographies and destinations. Six items in the Deep Learning Scale tap reflective educational activities including “Enjoyed completing a task that required a lot of thinking and mental effort” and “Learned something from discussing questions that have no clear answers.”

Integrative Learning pertains to the ways that students choose to access and synthesize information from various sources and diverse points of view. Sustainability education is inherently integrative, since it draws on multiple disciplines in the social and natural sciences, as well as on humanistic studies such as ethics ^[17]. Sustainability education, like study abroad, also challenges students to reconcile differing and competing views of the world and its resources ^[18]. Items in

the Deep Learning Scale tap integrative educational activities, such as “Put together ideas or concepts from different courses when completing assignments or during class discussions” and “Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)”.

Higher Order Learning stands in opposition to rote memorization. It emphasizes creative analysis, principled evaluation, and extrapolation. Ref. [19] note that higher education institutions have increasingly “been challenged to move beyond measuring the success of study abroad in terms of student enrollment and satisfaction and to foster higher-order learning outcomes” (p. 1). Four items of the Deep Learning Scale tap Higher Order Learning including “Made judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions” and “Analyzed the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components.” Higher Order Learning activities are characteristic of sustainability issues which have real-world consequences.

In this study, Deep Learning is treated as a unidimensional scale encompassing the three domains of high engaging educational practices discussed above. Ref. [8] find support for a second-order factor model of the NSSE scale, suggesting that the three sub-dimensions represent a single higher order “deep learning” construct. Thus, these authors conclude that a unidimensional approach is appropriate when using the NSSE scale for analysis of student engagement.

2. Sustainability Education and Student Engagement

Although there is no universally accepted definition of sustainability, it is generally considered to be an abstract construct that represents an idealized or progressive state of human–environment interaction [20][21][22]. In this state of balance, the basic social and economic needs of society are met without compromising the ability of the natural environment to support human welfare, now or in the future [23]. Sustainability thinking has emerged from a recognition that the current global system of social and economic production is eroding the natural capital on which it which it depends, while perpetuating gross social, economic, and environmental injustice [24][25]. Reforming this system and achieving the idealized future envisioned by sustainability requires: a change in how organizations measure and assess operational effectiveness [26], sweeping reform in patterns of individual resource use and consumption in the age of the Anthropocene [27][28], and a change in the sense of obligation that individuals hold for one another and the environment [29][30].

Thus, sustainability concepts and the solutions to eroding global sustainability are complex, relativistic, and rife with moral dilemmas [20][21]. This complexity is in part the rationale for assigning sustainability content broadly in higher education. Evaluating sustainability concepts requires students to engage in higher order thinking, problem solving, and the negotiation of conflicting individual and collective values [31][32]. Basic knowledge of sustainability concepts is seen by some as an integral part of liberal education, particularly as sustainability, and the social, economic, and environmental issues it represents, become increasingly salient in local, state, and international discourse [33][34][35]. In fact, some have gone as far as to argue that sustainability education should be the defining theme of liberal education [16][36].

Teaching sustainability, however, is complex. While students often have positive associations with sustainability concepts, many have “limited knowledge of sustainability principles and technical aspects related to sustainable tourism” operationalization [37] (p. 101). A highly engaging pedagogical model is critical for students to effectively retain and assimilate the complex, often global, concepts associated with sustainability, or, as [38] stated in reference to student engagement, it “is particularly crucial in the case of sustainability education, where holistic insight and an ability to organize and structure disparate types of information into a coherent whole is central to the whole exercise” (p. 45). To date, however, it has been identified that tourism students often graduate with a narrow and un-nuanced appreciation of sustainability, which it has been suggested may be partly due to the presence of coursework programs that are based on “weaker conceptualizations of sustainability and a lack of holistic, critical and systematic thinking” [39] (p. 882). Going forward, ref. [39] argue that universities need to teach sustainability in a way that goes beyond narrow neo-liberal viewpoints. The educational practices measured by the Deep Learning Scale are the very types of educational practices that are necessary for students to understand, retain, and engage with sustainability effectively. The extent to which courses focused on sustainability education foster high levels of student engagement, however, remains unknown.

3. Study Abroad and Student Engagement

Across academic disciplines, higher Deep Learning Scores predict higher grades, self-reported learning, and satisfaction with the college experience [9]. Study abroad programs are premised on the notion that students should be provided with “opportunities to engage with other cultures and gain valuable experience with the world beyond the college campus” [40]. Reflective of the fact that for many young people study, abroad programs represent a ‘rite of passage’ that can positively

enhance self-identity ^[41], it is not surprising that students who studied abroad were found to have greater first-year-to-senior-year gains in Deep Learning than did their counterparts who never studied abroad ^[42]. Indeed, it is often surmised that the engagement potential inherent in study abroad programs (e.g., frequent faculty contact outside of class, discussion with peers from diverse backgrounds) is what accounts for the positive learning outcomes that general accrue from education abroad ^[43]. Limited evidence points to the impact of study abroad on other kinds of engagement. For example, in a study of more than 6000 alumni of study abroad programs, participants exhibited strong positive impact of past education abroad on current indicators of global engagement such as civic activity, philanthropy, and social entrepreneurship ^[44].

The sparse empirical literature linking study abroad to enhanced student engagement does not, however, warrant definitive conclusions. For example, higher increments in engagement across four years of college study could be the result of some other factor that is confounded with the choice to study abroad. A single case study, without a control group, did examine more proximal changes in Deep Learning activity by collecting data from 25 students enrolled in a short-term class that included a brief home-stay component ^[45]. In general, these students reported that they had participated in activities characteristic of Higher Order Learning and Integrative Learning on campus, and Reflective Learning while studying abroad. Clearly, more rigorous research that involves (a) students participating in a range of study abroad programs and (b) a control group (comprised of students who did not study abroad) is required before the link between study abroad and student engagement can be confirmed.

Sustainability education and study abroad are considered natural partners ^[46]. In situ, reflective, and participatory instruction optimize engagement in sustainability studies ^[38], and those same traits are characteristic of study abroad. Indeed, one prior study demonstrated synergy between sustainability instruction and study abroad in terms of fostering global citizenship; students enrolled in sustainability classes abroad evinced especially high increments in this trait ^[47]. However, that same study found no such additive effect of studying abroad when the outcome of interest was a measure of cultural competence. International experience and global competencies are also tightly linked to issues of sustainability as many of the world's most pressing resource dilemmas transcend the boundary of the nation state ^[48]. Consequently, global learning can help to engender prosocial individual traits that are integral to social, economic, and environmental aspects of sustainability ^[31].

References

1. Kuh, G.D. High Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter; American Association of Colleges and Universities: Washington, DC, USA, 2008.
2. Kuh, G.D. What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Chang. Mag. High. Learn.* 2003, 35, 24–32.
3. Hayek, J.C.; Kuh, G.D. Principles for assessing student engagement in the first year of college. *Assess.* Update 2004, 16, 11–13.
4. Kolb, D.A. *Experiential Learning: Experience as the Source of Learning and Development*; Prentice Hall: Englewood Cliffs, NJ, USA, 1984.
5. Carini, R.M.; Kuh, G.D.; Klein, S.P. Student engagement and student learning: Testing the linkages. *Res. High. Educ.* 2006, 47, 1–32.
6. Brockbank, A.; McGill, I. *Facilitating Reflective Learning in Higher Education*; McGraw Hill: New York, NY, USA, 2007.
7. Stebleton, M.J.; Soria, K.M.; Cherney, B. The high impact of education abroad: College students' engagement in international experiences and the development of intercultural Competencies. *Front. Interdiscip. J. Study Abroad* 2013, 22, 1–24.
8. NSSE. National Survey of Student Engagement. Available online: <http://nsse.indiana.edu/html/about.cfm> (accessed on 29 September 2021).
9. Nelson Laird, T.F.; Shoup, R.; Kuh, G.D. Measuring Deep Approaches to Learning Using the National Survey of Student Engagement. 2005. Available online: http://nsse.indiana.edu/pdf/conference_presentations/2006/AIR2006DeepLearningFINAL.pdf (accessed on 15 September 2021).
10. Nelson Laird, T.F.; Shoup, R.; Kuh, G.D.; Schwarz, M.J. The effects of discipline on deep approaches to student learning and college outcomes. *Res. High. Educ.* 2008, 49, 469–494.
11. National Survey of Student Engagement (NSSE). National Survey of Student Engagement. Available online: <https://4efrxppj37l1sgsbr1ye6idr-wpengine.netdna-ssl.com/ira/wp-content/uploads/sites/27/2016/04/nsse2010report.pdf>

(accessed on 6 October 2021).

12. Boyd, E.M.; Fales, A.W. Reflective learning: Key to learning from experience. *J. Humanist. Psychol.* 1983, 23, 99–117.
13. Montiel, I.; Gallo, P.J.; Antolin-Lopez, R. What on Earth should managers learn about corporate sustainability? A threshold concept approach. *J. Bus. Ethics* 2020, 162, 857–880.
14. Sandri, O.J. Threshold concepts, systems and learning for sustainability. *Environ. Educ. Res.* 2013, 19, 810–822.
15. Meyer, J.; Land, R. Threshold Concepts and Troublesome Knowledge: Linkages to Ways of Thinking and Practising within the Disciplines; Citeseer: Forest Grove, OR, USA, 2003.
16. Fennell, D. *Tourism Ethics*, 2nd ed.; Channel View Publications: Bristol, UK, 2018.
17. Kahn, R.; Nocella, A.J.; Fassbinder, S.D. Introduction. *Greening the Academy: Ecopedagogy through the Liberal Arts*; Fassbinder, M., Ed.; Sense Publishers: Boston, MA, USA, 2012; p. XV.
18. Durbin, R.J. The Lincoln Commission and the future of study abroad. *Int. Educ.* 2006, 15, 4–6.
19. Landon, A.C.; Tarrant, M.A.; Rubin, D.L.; Stoner, L. Beyond “Just Do It” Fostering Higher-Order Learning Outcomes in Short-Term Study Abroad. *AERA Open* 2017, 3, 2332858416686046.
20. Solow, R.M. Sustainability: An Economists Perspective; The Eighteenth J. Seward Johnson Lecture; Woods Hole Oceanographic Institution: Woods Hole, MA, USA, 1991.
21. Tarrant, M. *Sustaining People, Planet and Profit*; Sentia Publishing: Austin, TX, USA, 2020.
22. Vos, R.O. Defining sustainability: A conceptual orientation. *Chem. Technol. Biotechnol.* 2007, 82, 334–339.
23. Brundtland Commission. *Our Common Future: The Report of the World Commission on Development*; Oxford University Press: Oxford, UK, 1987.
24. Higgins-Desbiolles, F. Justice tourism and alternative globalisation. *J. Sustain. Tour.* 2008, 16, 345–364.
25. Niewiadomski, P. COVID-19: From temporary de-globalisation to a re-discovery of tourism? *Tour. Geogr.* 2020, 22, 651–656.
26. Tomassini, L.; Baggio, R. Organisational effectiveness for ethical tourism action: A phronetic perspective. *J. Sustain. Tour.* 2021, 1–16.
27. Gibson, C. Critical tourism studies: New directions for volatile times. *Tour. Geogr.* 2019, 23, 659–677.
28. Princen, T. *The Logic of Sufficiency*; MIT Press: Cambridge, MA, USA, 2005.
29. Gössling, S. Human–Environmental relations with tourism. *Ann. Tour. Res.* 2002, 29, 539–556.
30. Pezzy, J. *Sustainable Development Concepts: An Economic Analysis*; World Bank: Washington, DC, USA, 1992.
31. Warburton, K. Deep learning and education for sustainability. *Int. J. Sustain. High. Educ.* 2003, 4, 44–56.
32. Tarrant, M.; Rubin, D.R.; Stoner, L. The effects of studying abroad and studying sustainability on students' global perspectives. *Front. Interdiscip. J. Study Abroad* 2015, 26, 68–82.
33. Bowers, C.A. Toward an eco-justice pedagogy. *Environ. Educ. Res.* 2002, 8, 21–34.
34. Weismann, N.B. Sustainability and liberal education: Partners by nature. *Lib. Educ.* 2012, 98, 1–8.
35. Zwickle, A.; Koontz, T.M.; Slagle, K.M.; Bruskotter, J.T. Assessing sustainability knowledge in the environmental, economic, and social domains. *Int. J. Sustain. High. Educ.* 2014, 15, 375–389.
36. Cortese, D.; Hattan, A.S. Research and solutions: Education for sustainability as the mission of higher education. *Sustain. J. Rec.* 2010, 3, 48–52.
37. Camargo, B.A.; Gretzel, U. What do tourism students know about sustainability and sustainable tourism? An exploratory study of Latin American students. *J. Teach. Travel Tour.* 2017, 17, 101–117.
38. Tarrant, M. A conceptual framework for exploring the role of studies abroad in nurturing global citizenship. *J. Stud. Int. Educ.* 2010, 14, 433–451.
39. Cotterell, D.; Hales, R.; Arcodia, C.; Ferreira, J. Overcommitted to tourism and under committed to sustainability: The urgency of teaching “strong sustainability” in tourism courses. *J. Sustain. Tour.* 2019, 27, 882–902.
40. Brown, C.; McLeod, B.; Erlingsson, T. Study abroad Iceland: A hospitality and tourism learning experience. *J. Hosp. Tour. Educ.* 2021, 1–14.
41. Grabowski, S.; Wearing, S.; Lyons, K.; Tarrant, M.; Landon, A. A rite of passage? Exploring youth transformation and global citizenry in the study abroad experience. *Tour. Recreat. Res.* 2017, 42, 139–149.

42. Gonyea, R.M. The Impact of Study Abroad on Senior Year Engagement. 2008. Available online: http://cpr.indiana.edu/uploads/Gonyea_StudyAbroad.pdf (accessed on 1 October 2021).
 43. Lutterman-Aguilar, A.; Gingerich, O. Experiential pedagogy for study abroad: Education for global citizenship. *Front. Interdiscip. J. Study Abroad* 2002, 8, 41–82.
 44. Paige, M.R.; Fry, G.W.; Stallman, E.M.; Josic, J.; Jon, J. Study abroad for global engagement: The long-term impact of mobility experiences. *Intercult. Educ.* 2009, 20, 29–44.
 45. Rourke, L.; Kanuka, H. Student engagement and study abroad. *Can. J. Univ. Contin. Educ.* 2012, 38, 1–12.
 46. Cusick, J. Study abroad in support of education for sustainability: A New Zealand case study. *Environ. Dev. Sustain.* 2009, 11, 801–813.
 47. Tarrant, M.; Rubin, D.; Stoner, L. The added value of study abroad: Fostering a global citizenry. *J. Stud. Int. Educ.* 2013, 18, 141–161.
 48. Ostrom, E. Revisiting the commons: Local lessons, global challenges. *Science* 1999, 284, 278–282.
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