Developing Cosmopolitan Competencies in Sustainability Professionals

Robert Bruce Hull, Michael Mortimer, and David Robertson
Virginia Tech

Sustainability professionals need cosmopolitan competencies to be successful when working on environmental, social, and governance issues that span cultural and national boundaries. Working professionals often struggle building these competencies because they have limited time for international travel and limited access to international peers. Short-term (10 day) and highly curated educational travel programs, combined with pre- and post-trip study, provide powerful learning experiences that can overcome these obstacles. This paper does three things: 1) defines and justifies cosmopolitan competencies that are useful to sustainability professionals, 2) describes a pedagogy to teach these competencies to working professionals, and 3) evaluates whether intended learning outcomes were achieved. A quantitative survey instrument was completed before and after international education programs to China and India. The pre-post differences were statistically significant, suggesting the pedagogy has impact. Qualitative interviews supplement and help interpret the quantitative data.

Sustainability professionals need cosmopolitan competencies to be successful when working on environmental, social, and governance issues that span cultural and national boundaries. In particular, the sustainable development challenges of the next few decades—a rising global middle class, changing climate, global supply chains, human migration, water stress, spread of infectious disease, and so on—demand a global perspective and coordination by international experts (Sachs, 2015).

This paper describes and evaluates a method for teaching and learning cosmopolitanism competencies that are important for career development and job performance in this context, especially for graduate students and sustainability professionals that are time constrained and not able to participate in traditional, semester-long study abroad programs. Working professionals often struggle building these competencies because they have limited time for international travel and limited access to international peers. The pedagogy we describe below was developed with these goals and constraints in mind.

This paper is organized as follows: the first section below describes the literature justifying and defining cosmopolitan competencies for sustainability professionals. The second section introduces a specific pedagogy that is designed to build those competencies. The third section describes a method for assessing learning outcomes resulting from an application of that pedagogy. The fourth and final section discusses the conclusions and limitations of our study, as well as recommendations for future work.

Literature Review

Sustainability professionals need cosmopolitan competencies to be successful because environmental, social, and governance challenges span cultural and national boundaries and require collaborating with international peers (e.g., Barth, Godemann, Rieckmann, & Stoltenberg, 2007; Glasser & Hirsh, 2016; Wiek et al., 2015). Careers related to sustainability are relatively new and rapidly evolving, so many working professionals are seeking professional development opportunities to gain cosmopolitan (and other) competencies (Leal Filho, 2011; UNESCO, 2014; Wals, 2014).

Consensus is evolving as to what cosmopolitanism competencies are most important. Recommendations include global citizenship (Davies, 2006; Morais & Ogden, 2011; Tawil, 2013), world-mindedness (Carano, 2010), intercultural competence (Fantini, Arias-Galicia, & Guay, 2001), global gaze (Marshall, 2005), environmental citizenship (Tarrant & Lyons, 2012), cosmopolitan perception (van Dam-Mieras, Lansu, Rieckmann, & Michelsen, 2008), situated cosmopolitanism (Healy, 2011), and cross-cultural empathy (Tarrant, 2010; Wiek et al., 2016).

Based on this literature, we concluded that sustainability professionals need at least four related but somewhat distinct cosmopolitan competencies. Literature used to define and defend each competency is listed in Table 1:

1. Cosmopolitan Identity: The ability to transcend one's own local and national identities and institutional affiliations and be appreciative of, and responsive to, other societies, cultures, markets, and governance institutions.
2. Cosmopolitan Professional Skills: The capacity to travel and work on challenges based in other communities, nations, and systems outside of one's own locale.
3. Global Systems Perspective: Recognition that sustainability challenges are teleconnected and spatially distributed across the planet. Understanding how local challenges and

Table 1
Cosmopolitan Competencies for Sustainability Professionals

Competency	Questions Used in Assessment (Literature Where Discussed)
Cosmopolitan Identity (CI)	1. Value the diversity of cultures.(Chickering & Braskamp, 2009; Tarrant et al., 2011). 2. Feel respect and concern for the rights and conditions of all people, globally (Marshall, 2005; Davis, Evans, & Reid, 2005). 3. Feel connected to global issues by your daily life and routine (Westheimer & Kahne, 2004; Merrill, Braskamp, & Braskamp, 2012).
Cosmopolitan Professional Skills (CPS)	1. Possess cultural competencies needed to interact professionally with sustainability professionals in other countries (Barth et al., 2007). 2. Experience with international settings relevant to your profession or career (Wiek et al., 2016). 3. Adeptly arrange your own international travel logistics (Wiek et al., 2016). 4. Mediate interactions between people of different cultures by helping them understand each other's values and practices (Jorgenson & Shultz, 2012).
Global Systems Perspective (GSP)	1. Describe global issues, trends, and conditions related to sustainable development (Morais & Ogden, 2011; Tawil, 2013). 2. Map connections between global issues and sustainability challenges in your own country (Chickering & Braskamp, 2009). 3. Map connections between global issues and sustainability challenges in another country (Su, Bullivant, & Holt, 2013).
Global Community of Practice: (GCP)	1. Access information relevant to your professional work that is published by global organizations, found on global platforms, provided by global communities of practice, or available through other global knowledge networks (Tawil, 2013). 2. Describe key global institutions with missions to impact sustainable development (i.e., United Nations, international treaties, World Bank, commodity roundtables) (Davies, 2006). 3. Access a network of global sustainability colleagues with whom you can consult on professional issues (Jorgenson & Shultz, 2012; Su et al., 2013).

solutions are interconnected to, and bounded by, global systems.

4. Global Community of Practice: The ability to access, use, share, and develop the knowledge, tools, and skills of global sustainability professionals and peers facing similar problems but distributed in vastly differing local, national, or regional contexts.

Methods

This section first reviews the theory behind our pedagogy. It then describes how we implemented this pedagogy. Finally, it describes the measures and methods to assess learning outcomes.

Pedagogy Theory

International travel, by itself, promotes cosmopolitan competencies. Wynveen, Kyle, and Tarrant (2012) demonstrated that short-term educational travel programs foster the learning outcomes related to cosmopolitanism. Other documented outcomes of travel include intercultural awareness (e.g., van't Klooster, van Wijk, & van Rekom, 2008), global citizenship (Tarrant, Rubin, & Stoner, 2014), and responsible leadership (Pless, Maak, & Stahl 2011). Significant learning occurs when students experience what Hottola (2004) calls "culture confusion": the mental disorientation resulting from experiencing differences in values, behavior, political perceptions, and ecology. Cultural bubbles can prevent this from happening. Bubbles occur when participants travel in large groups and/or can otherwise restrict their social interaction to familiar social networks (Pizam, Jafari, & Milman, 1991). To break the bubble, our projects force students to interact with specific people and places in the locations we visit.

Research also shows that students' learning outcomes improve if they study cultural competencies and cultural differences in advance of the trip (Kayes, Kayes, & Yamazaki, 2005; van't Klooster et al., 2008). We therefore require several self-paced studies of this type. Research also shows that reflection during and after the site visit amplifies and reinforces lessons learned during travel (Conceio & Skibba, 2008). So, we also design situations and assignments requiring reflection.

We also employ a project-based learning pedagogy. The project-based learning literature suggests that authentic problems with real clients motivate student interest and commitment (O'Brien & Sarkis, 2014), hence we work with partners engaged in

authentic and ongoing projects. New knowledge, understanding, and empathy are generated by coming into contact with, listening to, observing, and creating experiences with local people and organizations (Kayes et al., 2005; Kolb & Kolb, 2009; Paige, Fry, Stallman, Josić, & Jon, 2009). Hence, we assign projects that require students to interact with and interview local business, academic, and government leaders.

We take students to eight countries: Brazil, Croatia, Morocco, Turkey, India, Indonesia, China, and South Africa. These countries were selected because they are among the most rapidly developing in the world, will soon have economic and environmental impacts larger than the US and European Union combined, and thus offer powerful learning experiences for sustainability professionals (Kaplan, 2017; Sachs, 2015).

Pedagogy Application

This section describes what we did in the "classroom," but it first describes the students. The students are professionally oriented and are typically not on track to doctoral degrees or academic careers. Rather, most students seek credentials, competencies, and connections (networks) they can bring to bear in short order to improve their job performance and advance and/or change their careers. The students are diverse: ranging in age from 25 to 65, evenly divided between male and female, equally employed by business, government, or civil society organizations, and living throughout the US. Some students have deep international work experience while others have never held a passport or been on an airplane. The obvious upside of working with these students is their professionalism, discipline, and depth of experience that they bring to the classroom and share with peers.

With few exceptions, the global study experience occurs as part of a course taken by students enrolled in a professional master's program. Students pursuing that degree are required to take a "global issues" course, which counts for three credits out of a total of thirty required for graduation. That course is offered several times a year in different locations by different faculty; most coursework occurs entirely online except for a 10-day onsite study tour. The course has evolved as faculty learned from taking approximately 300 sustainability professionals abroad over an almost 10 year period. The current syllabus for the course emphasizing six interconnected tasks/projects/assignments:

1. Students complete a cultural competency learning module that reviews abstract principles of cultural competency (i.e., Myers, 2014) as well as country-specific readings and videos. Before departure they summarize impressions and expectations in a reflective essay. During the onsite study tour, debrief sessions are used to discuss impressions, lessons, and frustrations associated with comprehending and navigating cultural differences. Students conclude the semester with a short essay describing cultural competency lessons learned.

2. Students work before departure to familiarize themselves with the country and context. Faculty identify specific topics and direct students to useful literature such as World Bank country assessments, the CIA Factbook, and country-specific reports. Contextual factors include the following topics:
   - Demographics: What are major demographic trends such as population, age, wealth, urbanization, education, health, and inequality?
   - Environment: What are major environmental stressors such as water, climate, pollution, food/agriculture, biodiversity, and land use?
   - Market: What are the major imports, exports, trading partners, dependencies, vulnerabilities, etc.? What is the role of labor unions, sustainability certification, and green capital?
   - Governance: What are the governance structure (e.g., national, state, local)? What are the roles of civil society, property rights, corruption, and policies on pollution and environment?

3. Students conduct research about a project identified by the faculty that will be the focus of the country visit. They do this by reading project reports written by key stakeholders (i.e., annual reports, self-assessments, reports to funders) and conducting email or phone interviews with experts and stakeholders. Students organize this material using a framework/guide designed to help make sense of complex sustainability situations, something akin to a SWOT analysis but focusing on Stakeholders, Strategies, System attributes, and Outcomes. A *stakeholder* is an actor (e.g., person, organization, country) that has a stake in the outcome. Some stakeholders might be involved in shaping the outcomes, others might be trying to get involved but are ignored, and some will be oblivious of the situation but should be involved. Students examine the relevant interests and resources of key stakeholders. *Strategies* are the things that stakeholders do to influence outcomes and achieve their goals. Strategies are informed by theories of change: they are the levers to pull,

the means to intervene, and the tools to tinker with system functions. Students identify and explain key strategies. Mapping the *system* attributes encourages systems thinking that helps examine the bigger picture where larger risks and opportunities may exist (i.e., see the forest for the trees). System mapping helps drill down into internal and external factors, as well as the relationships between them, sources, sinks, and feedback loops. Systems thinking and systems mapping are used to help understand how things interact and where influence might be leveraged. *Outcomes* are where the proverbial rubber meets the road. The ability to effectively measure and manage desired outcomes is a critical tool for collaboration because stakeholders need to agree on what they are trying to accomplish and how to measure success and failure so that they can hold themselves accountable and have greater impact. Students identify the outcomes stakeholders say they are measuring and/or want to achieve.

4. Students study at the international location for approximately 10 days. During this time students meet with local professionals, learn about the host organization, visit project sites, interview stakeholders, and collect data. They also meet local experts on matters of sustainability and engage in cultural tourism activities. Faculty work outside of, and in advance of, the graduate course to build relationships with host organizations and professionals in the destination country and lay the groundwork for the study tour and course work.

5. Students return home and use the balance of the semester to analyze the situation and develop a stylized, descriptive professional facing essay describing what they learned. We have experimented with a number of formats for the major student project, including consulting reports where students "parachute in" as experts and offer recommendations. Given the time constraints the students face, the expertise required to provide meaningful recommendations, and the need to match expectations of both the students and local partners, we moved away from a consultancy project requiring recommendations to a stylized essay summarizing observations and lessons that might be of interest to other sustainability professionals. Students write an essay/blog/report for an audience of peers interested in learning lessons about projects and professionals from other parts of the world. Their reports typically contain these four sections:

- Problem statement: What will this essay tell us, who cares, and why should they care?
- Context: Situate the case in the larger demographic, environmental, market, and governance trends affecting sustainability in the Anthropocene
- Specifics:. Tell a story about how stakeholders use strategies to influence system outcomes (i.e. from the sense making exercise described above).
- Lessons: Describe major lessons that sustainability professionals can learn from this case/project and explain why these lessons matter.

Assessment of Learning Outcomes

We examined the impacts of our pedagogy on 37 graduate students: eight went to China and the balance to India. Both quantitative and qualitative assessments of learning outcomes were collected. Items for a quantitative survey were developed using the items in Table 1 (the items were turned into questions by prefacing them with, "How well do you…," or, "How much do you…"). The survey was administered to students online. Participants were sent the pre-trip survey several months before international travel and the post-trip survey about one month after returning home. Six of the China group and 27 of the India group completed both the pre- and post-surveys.

Factor Analysis was used to assess whether the 13 items could be collapsed into four major learning outcomes. The four indicators of cosmopolitan competency seem robust, orthogonal, and cohesive. Varimax rotation of Factor Analysis results show four distinct factors, and Cronbach Alpha statistics ranged from 0.74 to 0.85, indicating moderate reliability (Table 2). The four factors accounted for 34%, 20%, 10%, and 8% of the variance. The weakest index, based on these findings, is Cosmopolitan Identity. It accounted for the least amount of variance, and it appears that one item (CI-3; Table 2) aligned more with Cosmopolitan Professional Skills. We decided to maintain the deductive grouping for this study. Hence, the multiple items under each major learning outcome were summed and averaged to create one measure for each major learning outcome.

Paired t-tests were conducted to compare pre- and post- outcomes. To supplement the quantitative survey, the lead author traveled with the larger group to India and interviewed five students during the on-site experience. Five other students participated in email exchanges with the author after returning from the trip. The results of the interviews were transcribed and then axial coded first into themes relevant to the four

Table 2
Factor Analysis of Learning Outcomes

Factor	Cronbach Alpha	Survey Item*	% Variance and Factor Loadings			
			34%	20%	10%	8%
Cosmopolitan Identity		CI-1	.26	-.04	.09	.86
	0.74	CI-2	.18	.33	.04	.64
		CI-3	.56	.26	.13	.52
Cosmopolitan Professional Skills		CPS-1	.68	-.08	.05	.39
		CPS-2	.71	-.17	.31	.28
	0.79	CPS-3	.73	.09	-.08	.23
		CPS-4	.87	.26	-.04	-.22
Global Systems Perspective		GSP-1	-.01	.37	.78	.07
	0.85	GSP-2	.27	.34	.76	-.06
		GSP-3	-.05	.09	.93	.14
Global Community of Practice		GCP-1	-.07	.74	.27	.02
	0.82	GCP-2	.08	.82	.31	.21
		GCP-3	.17	.81	.10	.04

* Survey wording taken from the learning outcomes in Table 1

Table 3
Pre-Post Assessment of Cosmopolitan Learning Outcomes

Competency	Pre-Test Mean	Post-Test Mean	Mean Difference	t-test	n	p
Cosmopolitan Identity	4.22	4.47	.25	2.6	32	.013
Professional Skills	3.23	3.95	.71	4.7	32	.000
Global System	3.18	3.83	.65	4.7	32	.000
Community of Practice	2.92	3.81	.89	5.5	32	.000

cosmopolitan competencies described above and then within subthemes that emerged for each of those topics. The following interview guide was used (revised to post-tense for the post-trip interviews):

- What are your hopes and dreams for this trip?
- What are you learning about India and about traveling logistics?
- What are you learning about your career and profession?
- What are you learning about yourself and your role in the world?

Discussion of Results

All t-tests of learning outcomes were significant, suggesting that the educational program enhanced each of the four cosmopolitan competencies (Table 3). The least improved outcome was cosmopolitan identity, which might be because students began the course with a high feeling of cosmopolitan identity (4.2 out of 5) and therefore had less room for improvement. The other cosmopolitan competencies improved, but because they all remain below four (out of 5), suggesting we can improve our pedagogy. The China and India groups were compared, and it appears that the India experience was more impactful, but the statistics were inconclusive.

The interviews produced wide ranging comments, so what follows focuses only on comments specific to the four cosmopolitan competencies that are the focus of this paper. Illustrative quotes are provided in Table 4.

Cosmopolitan Identity is defined from the literature as transcending one's own local, national, and institutional affiliated identities and being aware and appreciative of other societies, cultures, markets, and governance institutions. The quantitative survey showed only a small, barely significant change, but the interviews suggest the impact on students' identities was profound. Students said that they gained a broader perspective on who they are personally and professionally and that they developed a sense of responsibility to something bigger, something global.

Cosmopolitan Professional Skills are defined from the literature as the ability to travel and work on challenges and collaborate with professionals based in other communities, nations, and systems outside of one's own locale. Students mentioned gaining many specific lessons pertinent to their professional interests, only a few are reviewed below. Importantly, students spoke about a new sense of humility, realizing that they

Table 4
Quotes from Interviews

Competency	Illustrative Quotes
Cosmopolitan Identity	- The trip to India provided a lens to re-examine my professional role. I'm rethinking what I do and why. - Life feels profoundly different here in the United States … the trip changed who I am. - I am learning to feel more responsible. - People told me that the trip would be an eye-opening experience, but I found it to be more heart opening than anything else.
Cosmopolitan Professional Skills	- I am learning a lot … about how to engage communities of different means and needs, especially when the professionals come from such dramatically different cultural backgrounds. - I was worried about traveling, but now I know I can do it. - I'm increasingly [humble and] aware I don't know what is right or wrong. It is so hard for us to judge others.
Global Systems Perspective	- The global experience … [will help] me to frame the impact of local actions on the global scale of development. - I … realize how all countries and people are connected in the task of global sustainability
Global Community of Practice	- I was amazed at the resources available on World Bank and other sites that could help us prepare for working here … - I want to come back as an intern and work for them. - The …[program] allows networking with professionals in the country.

needed to better respect others, not to parachute in with outside expertise, and not to be blinded by their own pre-conceptions and ways of problem solving. Several of the students reported a new sense of comfort with being able to travel and work internationally.

Global Systems Perspective is defined from the literature as the ability to recognize how sustainability challenges are teleconnected and spatially distributed across the planet and thus how challenges and solutions to local situations are interconnected to and bounded by global systems. Several students mentioned this topic explicitly. Some students also spoke about becoming aware of the similarities among people despite differences in culture and place.

Global Community of Practice is defined from the literature as access and use of global knowledge, best practices, and networks. Students described being impressed by the people and organizations they worked with but did not say much specific about how they intended to use these networks of people and knowledge.

Conclusion

Sustainability practices are rapidly evolving, and professionals are looking for career development opportunities. Higher education programs are responding. Toward this end, we developed and tested a pedagogy to promote cosmopolitan (and other) competencies sustainability professionals need to be successful when working on environmental, social, and governance issues that span cultural and national boundaries. Importantly, our pedagogy targets working professionals who have limited time for education programs because of work and family obligations.

Results of the pre-post evaluation indicate that our pedagogy works. Short-term (10 day) and highly curated educational travel programs, combined with pre- and post-trip study, provide powerful learning experiences. Students reported having greater cosmopolitan competencies after the completing the program. Qualitative interviews suggest that some of these impacts are profound. Students report gaining new perspectives on life and career as well as skills that make them more effective at their jobs and better equipped to engage in global projects. Importantly, the passion evidenced in these interviews suggest students not only gained competencies but were inspired by the experience and gained the confidence to engage global sustainability challenges.

Our findings are limited because we only assessed student perceptions of their learning outcomes rather than direct assessment of learning through tests of knowledge

or practice. We were also unable to disentangle the specific contribution of the various parts of the pedagogy (i.e., desk research versus onsite experience) and whether learning outcomes depend upon country, faculty, project topics, and other factors. Future research is needed to better understand how different learning activities and different locations can produce more effective outcomes for educating, inspiring, and empowering cosmopolitan sustainability professionals.

References

Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, *8*, 416-430. doi:10.1108/14676370710823582

Carano, K. T. (2010). *Through the lens of a global educator: Examining personal perceptions regarding the construction of world-mindedness*. (Unpublished doctoral dissertation). University of South Florida, Tampa, FL.

Chickering, A., & Braskamp, L. A. (2009). Developing a global perspective for personal and social responsibility. *Peer review*, *11*(4), 27.

Conceição, S. C., & Skibba, K. A. (2008). Experiential learning activities for leisure and enrichment travel education: A situative perspective. *Journal of Teaching in Travel & Tourism*, *7*, 17-35. doi:10.1080/15313220802033286

Davies, I., Evans, M., & Reid, A. (2005). Globalising citizenship education? A critique of 'global education' and 'citizenship education'. *British Journal of Educational Studies*, *53*, 66-89. doi:10.1111/j.1467-8527.2005.00284.x

Davies, L. (2006). Global citizenship: Abstraction or framework for action?. *Educational Review*, *58*, 5-25. doi:10.1080/00131910500352523

Fantini, A. E., Arias-Galicia, F., & Guay, D. (2001). *Globalization and 21st century competencies: Challenges for North American higher education*. Boulder, Co: Western Interstate Commission for Higher Education.

Glasser, H., & Hirsh, J. (2016). Toward the development of robust learning for sustainability core competencies. *Sustainability: The Journal of Record*, *9*, 121-134. doi:10.1089/SUS.2016.29054.hg

Healy, P. (2011). Situated cosmopolitanism, and the conditions of its possibility: Transformative dialogue as a response to the challenge of difference. *Cosmos and History: The Journal of Natural and Social Philosophy*, *7*(2), 157-178.

Hottola, P. (2004). Culture confusion: Intercultural adaptation in tourism. *Annals of Tourism Research*, *31*, 447-466. doi:10.1016/j.annals.2004.01.003

Jorgenson, S., & Shultz, L. (2012). Global citizenship education (GCE) in post-secondary institutions: What is protected and what is hidden under the umbrella of GCE? *Journal of Global Citizenship & Equity Education*, *2*(1). http://journals.sfu.ca/jgcee/index.php/jgcee/article/view/52/26

Kaplan, R. (2017). *The return of Marco Polo's world and the U.S. military response*. Washington DC: Center for a New American Security. Retrieved from http://stories.cnas.org/wp-content/uploads/2017/05/CNASSTORY-MarcoPolo-Final.pdf

Kayes, D. C., Kayes, A. B., & Yamazaki, Y. (2005). Essential competencies for cross-cultural knowledge absorption. *Journal of Managerial Psychology*, *20*, 578-589. doi:10.1108/02683940510623399

Kolb, A. Y., & Kolb, D. A. (2009). Experiential learning theory: A dynamic, holistic approach to management learning, education and development. In S. J. Armstrong & C. V. Fukami (Eds.), *The SAGE handbook of management learning, education and development* (pp. 42-68). Thousand Oaks, CA: Sage.

Leal Filho, W. (2011). About the role of universities and their contribution to sustainable development. *Higher Education Policy*, *24*, 427-438. doi:10.1057/hep.2011.16

Marshall, H. (2005). Developing the global gaze in citizenship education: Exploring the perspectives of global education NGO workers in England. *International Journal of Citizenship and Teacher Education*, *1*(2), 76-92.

Merrill, K. C., Braskamp, D. C., & Braskamp, L. A. (2012). Assessing individuals' global perspective. *Journal of College Student Development*, *53*, 356-360. doi: 10.1353/csd.2012.0034

Meyer, E. (2014). *The culture map: Breaking through the invisible boundaries of global business*. New York, NY: PublicAffairs.

Morais, D.B., & Ogden, A.C. (2011). Initial development and validation of the global citizenship scale. *Journal of Studies in International Education, 15*, 445-466. doi: 10.1177/1028315310375308

O'Brien, W., & Sarkis, J. (2014). The potential of community-based sustainability projects for deep learning initiatives. *Journal of cleaner production*, *62*, 48-61. doi:10.1016/j.jclepro.2013.07.001

Paige, R. M., Fry, G. W., Stallman, E. M., Josić, J., & Jon, J. E. (2009). Study abroad for global engagement: The long-term impact of mobility experiences. *Intercultural Education*, *20*, S29-S44. doi:10.1080/14675980903370847

Pizam, A., Jafari, J., & Milman, A. (1991). Influence of tourism on attitudes: US students visiting USSR. *Tourism Management*, *12*, 47-54. doi:10.1016/0261-5177(91)90028-R

Pless, N. M., Maak, T., & Stahl, G. K. (2011). Developing responsible global leaders through international service-learning programs: The Ulysses experience. *Academy of Management Learning & Education*, *10*(2), 237-260.

Sachs, J. (2015). *The age of sustainable development*. New York, NY: Columbia University Press.

Su, F., Bullivant, A., & Holt, V. (2013). Global citizenship education. In W. Curtis, S. Ward, J. Sharp & L. Hankin (Eds.), *Education studies: An issues-based approach* (pp. 231-244). Los Angeles, CA: Sage.

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*, 433-451. doi: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*, 141-161. doi:10.1177/1028315313497589

Tarrant, M., & Lyons, K. (2012). The effect of short-term educational travel programs on environmental citizenship. *Environmental Education Research*, *18*, 403-416. doi:10.1080/13504622.2011.625113

Tarrant, M. A., Stoner, L., Borrie, W. T., Kyle, G., Moore, R. L., & Moore, A. (2011). Educational travel and global citizenship. *Journal of Leisure Research*, *43*, 403-426. doi:10.1080/00222216.2011.11950243

Tawil, S. (2013). Education for 'global citizenship': A framework for discussion. *Education research and foresight.* Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/pdf/PaperN7EducforGlobalCitizenship.pdf

UNESCO. (2014), *Shaping the future we want: UN decade of education for sustainable development final report (2005-2014).* Retrieved from https://sustainabledevelopment.un.org/content/documents/1682Shaping%20the%20future%20we%20want.pdf

van Dam-Mieras, R., Lansu, A., Rieckmann, M., & Michelsen, G. (2008). Development of an interdisciplinary, intercultural master's program on sustainability: Learning from the richness of diversity. *Innovative Higher Education*, *32*, 251-264. doi:10.1007/s10755-007-9055-7

van 't Klooster, E., van Wijk, J., Go, F., & van Rekom, J. (2008). Educational travel: The overseas internship. *Annals of Tourism Research*, *35*, 690-711. doi:10.1016/j.annals.2008.05.003

Wals, A. E. (2014). Sustainability in higher education in the context of the UN DESD: A review of learning and institutionalization processes. *Journal of Cleaner Production*, *62*, 8-15. doi:10.1016/j.jclepro.2013.06.007

Wiek, A., Bernstein, M., Foley, R., Cohen, M., Forrest, N., Kuzdas, C., Kay, B., & Keeler, L. (2016). Operationalising competencies in higher education for sustainable development. In M. Barth, G. Michelson, M. Rieckmann & I. Thomas (Eds.), *Routledge handbook of higher education for sustainable development* (241-260). New York, NY: Routledge.

Westheimer, J., & Kahne, J. (2004). Educating the "good" citizen: Political choices and pedagogical goals. *PS: Political Science & Politics*, *37*, 241-247. doi:10.1017/S1049096504004160

Wynveen, C. J., Kyle, G. T., & Tarrant, M. A. (2012). Study abroad experiences and global citizenship: Fostering proenvironmental behavior. *Journal of Studies in International Education*, *16*, 334-352. doi:10.1177/1028315311426782

_____

R BRUCE HULL is a professor and senior fellow at Virginia Tech's Center for Leadership in Global Sustainability based near Washington DC. He writes and teaches about leadership for sustainable development in the Anthropocene and how to influence change in the cross-sector space where government, business, and civil society interact. He has authored and edited numerous publications, including two books, *Infinite Nature* (Chicago) and *Restoring Nature* (Island). He is board president of Climate Solutions University, whose mission is to help communities adapt to climate change. He leads global study programs to India.

MICHAEL MORTIMER is Founding Director and Senior Fellow at the Center for Leadership in Global Sustainability at Virginia Tech. His expertise is in policy, law, and governance institutions. Dr. Mortimer works with professionals and students on sustainable development questions in locations around the world, and his most active research and writing is centered on the role that global cities can play in leading and solving sustainable development challenges.

DAVID ROBERTSON is Founding Director of the Executive Master of Natural Resources graduate degree program and Senior Fellow at the Center for Leadership in Global Sustainability, Virginia Tech. Dr. Robertson is also a founder and principal of Educene, a travel education business. Dr. Robertson teaches graduate courses and provides individual development and career advising to environmental and sustainability professionals.