

Conceptualizing High-Impact Practices within the Frame of Agricultural Leadership Education: A Content Analysis

D. Coyle¹, J. Strong²

Abstract

The use of high-impact practices in undergraduate leadership courses is a common and effective way of developing students studying agriculture. However, each of the ten high-impact practices (HIPs) recognized by the Association of American Colleges and Universities (Kuh, 2008) are not equally studied or utilized by leadership educators. This study will provide a content analysis of the use of HIPs as a leadership pedagogy in undergraduate education. In the studies analyzed, which were grouped by categories of HIPs, only five of the ten main HIPs were represented. These were undergraduate research, diversity and global learning, internships, service learning, and capstone courses and projects. The analysis revealed each HIP resulted in one or more of Kuh's (2008) proposed learning outcomes. Based on these findings, the researchers suggest HIPs be used more frequently in agricultural leadership curriculum and call on scholars to study the ten HIPs more closely.

Keywords

Internships, undergraduate research, global learning, community-based learning, service learning

1. David Coyle, Master of Science, Texas A&M University, 2116 TAMU, College Station, TX 77843, dpcoyle@gmail.com
 <https://orcid.org/000-0002-8486-1689>
2. Jennifer Strong, Associate Professor, Texas A&M University, 2116 TAMU, College Station, TX 77843, dr.jen@tamu.edu
 <https://orcid.org/0000-0001-6718-6434>

Introduction and Problem Statement

Creating courses and programs, which engage students in critical thinking and develop their leadership capacity, is a common struggle for educators in the field of agriculture (Arum & Roska, 2011; Peek et al., 2017; Strong et al., 2013; Strong et al., 2021). Traditional agricultural leadership education programs are built upon experiential learning pedagogies but there are no discipline specific accepted best practices (Williams et al., 2005). The use of high-impact practices is one method educators can overcome this challenge. High-impact practices, or “HIPs”, are pedagogies that seek to enhance student involvement in the learning process by exposing them to non-traditional forms of education. According to the Association of American Colleges and Universities, these practices should be conducted in order to achieve key learning outcomes, which are essential in the professional world (Kuh, 2008). These outcomes include knowledge of human cultures and the physical and natural world, intellectual and practical skills, personal and social responsibility, and integrative and applied learning (Kuh, 2008). Lane and Murphrey (2020) found the study of international experiences, through the lens of Kuh’s (2008) high-impact framework has increased but is limited to describing Kuh’s HIP categories and not focused on the impact of Kuh’s learning outcomes. In the field of agricultural leadership education, high-impact practices can yield tremendous value as it pertains to the development of undergraduate students studying leadership in the context of agriculture.

This study sought to analyze the use of high-impact practices across multiple collegiate leadership programs. Separate studies were grouped based upon the type of HIP that was utilized and were examined for common outcomes and themes. The researchers then discussed the findings from the content analysis in order to determine best practices of using HIPs in leadership education, and to identify opportunities for further research.

Theoretical and Conceptual Framework

Kuh’s (2008) research on high-impact practices served as the base for this study. Studies were grouped according to which of the ten HIPs were examined, which are:

1. First year seminars and experiences
2. Common intellectual experiences
3. Learning communities
4. Writing-intensive courses
5. Collaborative assignments and projects
6. Undergraduate research
7. Diversity/global learning
8. Service learning, community-based learning
9. Internships
10. Capstone courses and projects (Kuh, 2008)

According to Kuh (2008), high-impact practices should achieve several vital learning outcomes. The first learning outcome is knowledge of human cultures and the physical and natural world,

which is achieved predominantly through science, math, social science, humanities, history, language, and arts courses (Kuh, 2008). The second learning outcome is the development of intellectual and practical skills, including inquiry and analysis, critical and creative thinking, written and oral communication, quantitative literacy, information literacy, and teamwork and problem solving (Kuh, 2008). Personal and social responsibility is the third mentioned learning outcome, which entails civil knowledge and engagement, intercultural knowledge and competence, ethical reasoning and action, and foundations and skills for lifelong learning (Kuh, 2008) Finally, integrative and applied learning, which includes “synthesis and advanced accomplishment across general and specialized studies,” is the fourth vital learning outcome (Kuh, 2008, p. 4). These learning outcomes, and whether they were achieved in the analyzed studies, functioned as the standard for our content analysis.

Purpose

The leadership education, training, and development of undergraduate agriculture students is considered vitally important by many educators and scholars (Lemons & Strong, 2016; Moore et al., 2011b). As such, it is important to offer courses, programs, and experiences to students that will contribute the most to their development. HIPs, according to Kuh (2008), represent the most influential and impactful learning experiences available to students. The purpose of this content analysis was to add to the available knowledge base on the use and success of HIPs in undergraduate agricultural leadership education. By examining the types of HIPs being used and their impact, the researchers were able to draw conclusions on the use and effectiveness of HIPs in leadership courses and generate recommendations for future practice and research.

Methods

In order to understand the current methods of integrating HIPs in leadership education, Shapiro and Markoff's (1997) and Krippendorff's (2004) frameworks of content analysis were utilized. The initial search terms of “high impact practices, leadership education” were inputted into three different academic search engines: (1) Web of Science, (2) Google Scholar, and (3) Texas A&M University's Library search (which includes ProQuest, Ebsco, and J-Store). These searches yielded 100 peer-reviewed results. Refining the search to include the word “agriculture” narrowed the results to 21 peer-reviewed articles. cursory research focusing the parameters to include undergraduate education and including key terms from Kuh's (2008) ten high-impact practices narrowed the results to ten. These articles were selected and reviewed for commonalities, including leadership settings, type of HIP, themes, and findings (Klenke et al., 2016). Only five of the ten high-impact practices were represented among the ten articles: undergraduate research, diversity/global learning, service learning/community-based learning, internships, and capstone courses/projects. The articles were then grouped according to these five categories. Certain research articles were placed in more than one category because they included research on more than one HIP.

In order to accurately assess whether a particular HIP achieved some or all of Kuh's learning outcomes, the results of each study will be reviewed with a focus on increased knowledge, critical application of new knowledge, practical skill development and community engagement. Participants' responses as well as the authors' conclusions will be considered when determining the overall effectiveness of a given HIP in an undergraduate leadership course. Once each study has been assessed, conclusions can be drawn as to the efficacy of each high-impact practice.

Findings

Undergraduate Research

Although a less common practice in social science agricultural departments (including leadership, education, and communications), undergraduate research provides students with mentoring relationships, teaches them practical skills, and enhances their critical thinking abilities. However, in one study, an especially unique approach was taken in the creation of an Undergraduate Leadership Teaching Assistantship (Odom et al., 2014). This position provided students with the same opportunities as undergraduate research, but also allowed students to serve as mentors and role models to their peers (Odom et al., 2014). Researchers found the HIP to be successful, noting it "provides an opportunity for leadership students to apply course material and further develop their understanding of personal leadership strengths and weaknesses..." (Odom et al., 2014, p. 159). In accordance with Kuh's (2008) learning outcomes for HIPs, the UTLA accomplishes three: intellectual and practical skills, personal responsibility, and integrative and applied learning.

Diversity/Global Learning

At a small liberal arts university, a study was conducted to discern if students grew in intercultural competency as a result of their participation in a five-week agricultural study abroad program (Armstrong, 2020). Using a pre-post survey, scholars discovered students did indeed experience significant growth in their intercultural competency, specifically in the dimensions of continuous learning, interpersonal engagement, and hardiness (Armstrong, 2020). The distinct increase in intercultural competency as a result of this HIP achieves the Kuh's (2008) learning outcome of cultural and world knowledge.

Another study by Kerry Priest and Nicholas Clegorne (2015) analyzed three HIPs, including one based upon diversity/global learning. Sociocultural conversations (a unique pedagogy practiced at Kansas State University) are facilitated by the instructor, allowing students to openly and critically discuss issues of identity (Priest & Clegorne, 2015). Testimonies from students, teaching assistants and instructors all indicate the activity was successful, forcing students to grow more comfortable with difficult conversations and practice empathy (Priest & Clegorne, 2015). The authors summarized that "when educators create a safe environment for sociocultural conversations, they can more intentionally challenge students to search out the root of their beliefs—without judgement—for the sake of learning and leadership

development” (Priest & Clegorne, 2015, p. 75). This HIP achieves Kuh’s (2008) learning outcome of increased cultural knowledge, as well as enhancing students’ personal and social responsibility.

Service Learning & Community Based Learning

Priest and Clegorne (2015) also study the use of a service learning & community-based learning HIP, detailing the involvement of students at the local YMCA. Some students first volunteered at the Y simply to meet a class requirement or complete a service project, but many continued to volunteer after their first experience (Priest & Clegorne, 2015). According to the former CEO of this program, “students who participated in reflections, mentoring, and additional training and development opportunities remained more engaged in Y programs and openly explored connections to academic coursework, personal values, and possible social innovations to meet evolving community needs” (Priest & Clegorne, 2015, p. 82). Of Kuh’s (2008) learning outcomes for high-impact practices, this assignment accomplishes personal and social responsibility, as well as integrative and applied learning by encouraging students to care for their community and critically relate their service back to coursework.

In another course, instructors implemented three service learning and community-based learning high-impact practices, each coupled with a written reflection (Andreu et al., 2020). The first HIP required students to volunteer at a local non-profit and reflect on the experience in a paper (Andreu et al., 2020). The second HIP required students to contact a senior leader in the community and spend some time learning from them, followed by a reflection on the experience (Andreu et al., 2020). The final HIP required students to attend two meetings with a professional organization, network with at least three people at that meeting, and follow up with those three individuals. Afterwards, students were responsible to write a reflection on the experience (Andreu et al., 2020). The instructors received positive feedback from their students on all three HIPs. Participants expressed increased empathy for the disenfranchised after their work with a local non-profit, enhanced confidence and professional skills after their conversation with a senior leader, and greater understanding of the professional world after following up with their three network connections (Andreu et al. 2020) These activities clearly achieved several of Kuh’s (2008) learning outcomes for high-impact practices, specifically personal/social responsibility and intellectual/practical skill development.

Meyers et al. (2014) integrated HIPs within agricultural leadership curriculum by focusing on teamwork and service-learning. Students enrolled in a similar agricultural leadership course at two different universities were assigned to teams and then challenged to find a community partner and identify a project the student team could complete to help the partner. Teams completed the identified project throughout the semester and then presented their projects to the partners and their classmates. Students were also asked to complete reflection assignments throughout the semester. Findings from this HIP include the importance of communication and clarity with community partners, the impact of teams on HIPs, and the significance of clear learning objectives (Meyers et al., 2014). This activity achieved Kuh’s (2008) learning outcomes

of development of intellectual and practical skills, personal and social responsibility, and integrative and applied learning.

In a fourth study, researchers examined the effect of participating in service-learning opportunities on student's service leadership emergence and meaning schema transformation (Chen et al., 2018). They define meaning schema transformation as the obtaining a new and more intricate understanding of what is being studied (Chen et al., 2018). Kuh's (2008) critical thinking serves as an integral part of the meaning schema transformation process. The researchers found service-learning opportunities had a greater effect on meaning schema transformation than other forms of learning (Chen et al., 2018).

Internships

In most cases, internships are opportunities for students to work with a company for a short period of time and develop their professional skills. However, in this particular study, a new and unique high-impact practice was created, combining the typical internship experience with service learning. In this model (entitled "Serviceship"), rather than working for a company, students were assigned to work for a community (Hastings et al., 2018). Participants in the program were assigned a specific rural community, and community leaders created and assigned a development project for the student to take on (Hastings et al., 2018). The Serviceship model was utilized and studied over four years, yielding very positive results. Authors stated that students who participated in the experience not only completed their assigned community development project, but also became very involved with the community and its leaders (Hastings et al.). One student shared that the experience "enhanced [their] appreciation for integrity, empathy, self-confidence, and social judgment skills" (Hastings et al., 2018, p. 146). Meanwhile, community leaders also felt the HIP was a great success, with one stating, "I feel that I have learned just as much from their knowledge and their perspectives about our community and about rural [State], as they have about their experience here in our community (Hastings et al., 2018, pp.145-146). These positive outcomes align with Kuh's (2008) learning outcomes of practical skill development, social responsibility, and cultural knowledge.

Another study examined the impact of an undergraduate apprenticeship program, designed to give students a chance to be mentored by a local professional in their field of interest (Denny & Hardman, 2020). While meeting with their mentor, students also participated in research and helped with activities and programs in the community (Denny & Hardman, 2020). This aspect of the apprenticeship program also involves aspects of community-based learning, another of Kuh's (2008) ten HIPs. Researchers discovered students who participated in the undergraduate apprenticeship program displayed increases in their professional knowledge, scholarship, interest in their field and related post-graduate opportunities, and critical thinking (Denny & Hardman, 2020). According to Kuh (2008), these learning outcomes (practical skill development and integrative and applied learning) are a direct indication that the undergraduate apprenticeship program was an effective HIP.

A third study examined differences between students who participated in internships and those who did not across various indicators of resilience, such as challenge orientation and adaptability (Goodenough et al., 2020). The researchers found student interns achieved and maintained a higher level of resilience than their classmates who did not (Goodenough et al., 2020). Although resilience is not one of Kuh's (2008) specific indicators of programmatic success, we firmly believe challenge orientation and adaptability fall under the ability to think critically.

Capstone Courses and Projects

In a study on the use of capstone projects in higher leadership education, an assignment was developed called "Leadership for Dummies" (Moore et al., 2011a). After completing the necessary core classes in their leadership major, students could participate in this project, where they were responsible to write and develop chapters of their own "for dummies" book on leadership (Moore et al., 2011a). Each student was instructed to critically synthesize their education into their own concise and understandable words, creating an 8–10-page chapter on every facet of leadership they choose (Moore et al., 2011a). The authors describe multiple positive outcomes in their study, summarized well by one student's feedback, who said, "The assignment helped me further understand all the leadership concepts that I chose to write about....in order to explain and relate it to real life situations I had to grasp the concept and really apply it" (Moore et al., 2011a, p. 128). This ability to critically synthesize information illustrates the students' practical skill development and integrative/applied learning, both of which are Kuh's (2008) listed learning outcomes for high impact practices.

Conclusions, Discussion, and Recommendations

Conclusion and Discussion

High-impact practices provide students with a rich academic experience that often exceeds what can be accomplished with conventional teaching methods. These practices are designed to challenge perspectives, prompt critical thinking and develop skills which are essential in the professional world. Lunsford and Brown (2016) concluded collegiate leadership programs should strive to connect research-based practices with leadership development. To ensure that these high standards are met, Kuh (2008) lists specific learning outcomes that high-impact practices should accomplish, including cultural and world knowledge, intellectual and practical skill development, personal and social responsibility, and integrative and applied learning. Each of the aforementioned high-impact practices easily achieves one or more of these learning outcomes. This content analysis found integrative and applied learning objectives were the most frequently reported learning outcome, met in seven of the articles. Intellectual and practical skills (n=6) and personal and social responsibility (n=6) were the second most reported. Knowledge of human cultures and the physical and natural world was mentioned in three studies. These findings fill the gap in the literature found in HIP by Lane and Murphrey (2020).

This content analysis clearly illustrates high-impact practices are diverse, engaging, and unique ways of teaching that can be easily and effectively applied in undergraduate leadership courses and the impact of self-directed learning is imperative to document for leadership students (Strong et al., 2013; Strong & Williams, 2014). However, perhaps the most interesting takeaway from this study is which HIPs were most often practiced and studied in undergraduate agricultural leadership courses. The Association of American Colleges and Universities lists ten high-impact practices. Among the articles reviewed by the researchers, only five of the ten practices were implemented and studied by agricultural leadership educators: undergraduate research, diversity/global learning, service learning and community-based learning, internships, and capstone courses and projects. First year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, and collaborative assignments and projects were not found in our content analysis. Articles were identified that addressed some of these practices but were written in a practical application or “how to” manner that did not address the assessment of effectiveness. These articles were written more for the practitioner to replicate the activities, therefore were not included in this analysis. The absence of these high-impact practices may be a result of insufficient published research, or it may be these specific pedagogies remain unused in the leadership development of undergraduate agriculture students.

Recommendations

In order to discern why only half of Kuh’s (2008) high-impact practices were studied in these ten articles, scholars would need to conduct further research. However, we believe discoveries made as a result of further inquiry could enhance the integration of HIPs in agricultural leadership education as a whole. Future researchers could conduct a study with a large and diverse sample of agricultural leadership educators from multiple universities. These educators would be interviewed in order to determine which HIP they believe would be/is most effective in their undergraduate leadership course. We hypothesize agricultural leadership educators utilize more of Kuh’s (2008) HIPs than reported but do not translate their classroom practices into impactful research. Measuring the cross-cutting skills high-impact practices develop further validates the pedagogy and adds to the body of literature and practice (Andrade, 2020). If the findings from this proposed study show undergraduate leadership, diversity/global learning, service learning and community-based learning, internships and capstone projects are all preferred, then the results of this content analysis would be validated.

Additionally, we recommend that agricultural leadership educators continue integrating HIPs into their undergraduate coursework as a way of engaging students in new forms of learning and achieving positive learning outcomes. Our findings revealed such pedagogies regularly yield positive results and would therefore be an asset to the practice of agricultural leadership beyond the classroom.

Acknowledgements

David P. Coyle was the principal researcher for this article. He conducted the content analysis. Jennifer Strong was the co-researcher for this article. She contributed findings and recommendations.

References

- Andrade, M. S. (2020). Cross-cutting skills: Strategies for teaching and learning. *Higher Education Pedagogies*, 5(1), 165-181. <https://doi.org/10.1080/23752696.2020.1810096>
- Andreu, F. S., Sweet, K. M., & Douglas, H. C. (2020). Building leadership skills through high-impact experiences. *Journal of Leadership Education*, 19(4), 134–146. <https://doi.org/10.12806/V19/I4/A3>
- Arum, R., & Roska, J. (2011). *Academically adrift: Limited learning on college campuses*. University of Chicago Press. <http://highered.ssrc.org/publications/academically-adrift/>
- Armstrong, J. P. (2020). Assessing intercultural competence in international leadership courses: developing the global leader. *Journal of Leadership Education*, 19(4), 1–19. <https://doi.org/10.12806/V19/I4/R1>
- Chen, T., Snell, R. S., & Wu, C. X. (2018). Comparing the effects of service-learning versus nonservice-learning project experiences on service leadership emergence and meaning schema transformation. *Academy of Management Learning & Education*, 17(4), 474–495. <https://doi.org/10.5465/amle.2016.0309>
- Denny, M. D., & Hardman, A. M. (2020). Mississippi State University extension undergraduate apprenticeship program: A model for critical reflection through community-engaged research and outreach. *Advancements in Agricultural Development*, 1(1), 86–96. <https://doi.org/10.37433/aad.v1i1.13>
- Goodenough, A. E., Roberts, H., Biggs, D. M., Derounian, J. G., Hart, A. G., & Lynch, K. (2020). A higher degree of resilience: Using psychometric testing to reveal the benefits of university internship placements. *Active Learning in Higher Education*, 21(2), 102–115. <https://doi.org/10.1177/1469787417747057>
- Hastings, L. J., Wall, M., & Mantonya, K. (2018) Developing leadership through “servicship”: Leveraging the intersection between service-learning and professional internship. *Journal of Leadership Education*, 17(1), 141–151. <https://doi.org/10.12806/V17/I1/A2>
- Klenke, K., Martin, S., & Wallace, J. R. (2016). *Qualitative research in the study of leadership* (2nd ed.). Emerald.

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. American Association of Colleges and Universities.

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Sage.

Lane, K. E., & Murphrey, T. P. (2020). Benefits of and best practices for international experiences for college students: A synthesis of literature. *Journal of International Agricultural and Extension Education*, 27(4), 39-61.
<https://www.aiaee.org/attachments/article/1805/5%20Lane.pdf>

Lemons, L., & Strong, J. (2016). Developing teamwork and team leadership skills through service learning. *The Agricultural Education Magazine*, 89(1), 18-19.
<https://www.proquest.com/docview/1844621433?parentSessionId=sTc2e2gxUwu%2BCb%2BmkyWlqYpkM52IXk8N9Dgz8Br%2F9fM%3D>

Lunsford, L. G., & Brown, B. A. (2016). Preparing leaders while neglecting leadership: An analysis of U.S. collegiate leadership centers. *Journal of Leadership and Organizational Studies*, 24(2), 261-277. <https://doi.org/10.1177/1548051816662613>

Meyers, C., Lemons, L., & Hock, G. (2014). Implementing service-learning: Best practices from agricultural leadership education. *Journal of Higher Education Outreach and Engagement*, 19(3), 159-161.
<https://openjournals.libs.uga.edu/jheoe/article/view/1146/1145>

Moore, L. L., Odom, S. F., & Weid, L. M. (2011a). Leadership for dummies: A capstone project for leadership students. *Journal of Leadership Education*, 10(1), 123–131.
<https://doi.org/10.12806/V10/I1/IB2>

Moore, L. L., Williams, J., Boyd, B. L., & Elbert, C. D. (2011b). International experiences of agricultural leadership and development seniors. *International Journal of Business Management and Economic Research*, 2(1), 117-123.
<http://www.ijbmer.com/docs/volumes/vol2issue1/ijbmer2011020101.pdf>

Odom, S. F., Ho, S. P., & Moore, L. L. (2014). The undergraduate leadership teaching assistant (UTLA): A high-impact practice for undergraduates studying leadership. *Journal of Leadership Education*, 13(2), 152–161. <https://doi.org/10.12806/V13/I2/A2>

Peek, C., Strong, J., Boyd, B. L., & Strong, J. (2017). Honor codes: Do they promote an ethical culture? *NACTA Journal*, 61(1), 1-6. <https://www.jstor.org/stable/90004097>

Priest, K. L., & Clegorne, N. A. (2015). Connecting to experience: High-impact practices for leadership development. *Discoveries*, 71–83. <https://doi.org/10.1002/yd.20125>

- Shapiro, G., & Markoff, J. (1997). A matter of definition. In C. W. Roberts (Eds.), *Text analysis for the social sciences: Methods for drawing statistical inferences from texts and transcripts*. Routledge.
- Strong, R., Williams, R., Irby, T. L., & Wynn, J. T. (2013). Country club management and self-directedness: Implications for academics and practitioners of leadership. *NACTA Journal*, 57(4), 38-44. <https://www.jstor.org/stable/nactajournal.57.4.38>
- Strong, R., & Williams, J. (2014). Understanding students as followers: Discovering the influence of followership style on self-directed learning. *Journal of Agricultural Education*, 55(2), 201-213. <https://doi.org/10.5032/jae.2014.02201>
- Strong, R., Dooley, K. Murphrey, T., Strong, J., Elbert, C., & Baker, M. (2021). The EVAL framework: Developing impact evaluation scholars. *Advancements in Agricultural Development*, 2(3), 2-13. <https://doi.org/10.37433/aad.v2i3.139>
- Williams, J. R., Townsend, C. D., & Lindner, J. (2005). Teaching leadership: Do students remember and utilize the concepts we teach? *Journal of Leadership Education*, 4(1), 66-78. <https://doi.org/10.12806/V4/I1/RF2>

© 2022 by authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).