A Comparison of Learning Outcomes for Adult Students in On-Site and Online Service-Learning

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Abstract

As noted by Kolb's (1984) experiential learning theory, adults learn best through experiences. Typically delivered in a traditional, face-to-face classroom setting, service-learning integrates the knowledge learned in the classroom with real-world experience and community service. E-service-learning, service-learning delivered in part or entirely online, is uniquely positioned to provide adult students in online programs with access to service-learning opportunities that might not be as available to them in traditional settings. Although e-service-learning can increase access to service-learning opportunities for adult students in online programs, it is unclear if there are differences in experiences and learning outcomes attainment for students who participate in online service compared to those who participate in service on-site. This study utilized a cross-sectional, concurrent, mixed-methods design to examine the experiences of adult students (n=112) who participated in either on-site or online service. Of the six learning outcome measures examined, a one-way ANOVA revealed a statistically significant difference in learning outcome attainment in civic responsibility. Students who participated in on-site service reported higher learning outcome attainment in civic responsibility than did their online peers. An analysis of the qualitative data showed that students in online and on-site service shared similar experiences. The quantitative and qualitative data established that participants in this study had similar service experiences regardless of online or on-site delivery.

Introduction

Service-learning, an experiential approach to teaching and learning that utilizes community service and reflection to support academic and values development, has been employed successfully as an instructional method at all levels of education (Jenkins & Sheehey, 2012). The use of service-learning has become a standard practice in higher education, its scope moving from a push to increase volunteerism among college students (Morton & Troppe, 1996) to engaging students in the curriculum through community involvement (Dymond, Neeper, & Fones, 2010). The growth and institutionalization of service-learning are due in large part to its effectiveness in leading to positive outcomes for students. Multiple meta-analyses of research literature on service-learning have shown that students who participate in service-learning achieve higher levels of specific learning outcomes attainment than their peers (Celio, Durlak, & Dymnicki, 2011; Conway, Amel, & Gerwien, 2009; Yorio & Ye, 2012).

The expansion of online education and the increase of adult student enrollment in higher education have paralleled the growth of service-learning. Approximately 38% of the students in post-secondary education are over the age of 25 (Ross-Gordon, 2011), and that number is projected to increase (National Center for Education Statistics [NCES], 2014). It is also well documented that the growth rate in online student enrollment has eclipsed the growth rate of on-site student enrollment (Allen & Seaman, 2010, 2013), and adult students make up the largest percentage of online course enrollment (Clienfelter & Aslanian, 2015).

E-service-learning, service-learning that is delivered in part or entirely online, is uniquely positioned to provide adult students in online programs with access to experiential learning opportunities that might not be as available to them in traditional settings.

E-service-learning can increase access to service-learning opportunities for adults in online programs, but it is unclear if there is a difference in experiences, including the attainment of learning outcomes, for adults who complete online service compared to those who complete service on-site. The purpose of this study was to compare the experiences of adult undergraduate students who completed online service and those who completed service on-site. The overarching question guiding this study was do adult undergraduate students who complete online service projects and those who complete on-site service projects report similar service-learning experiences?
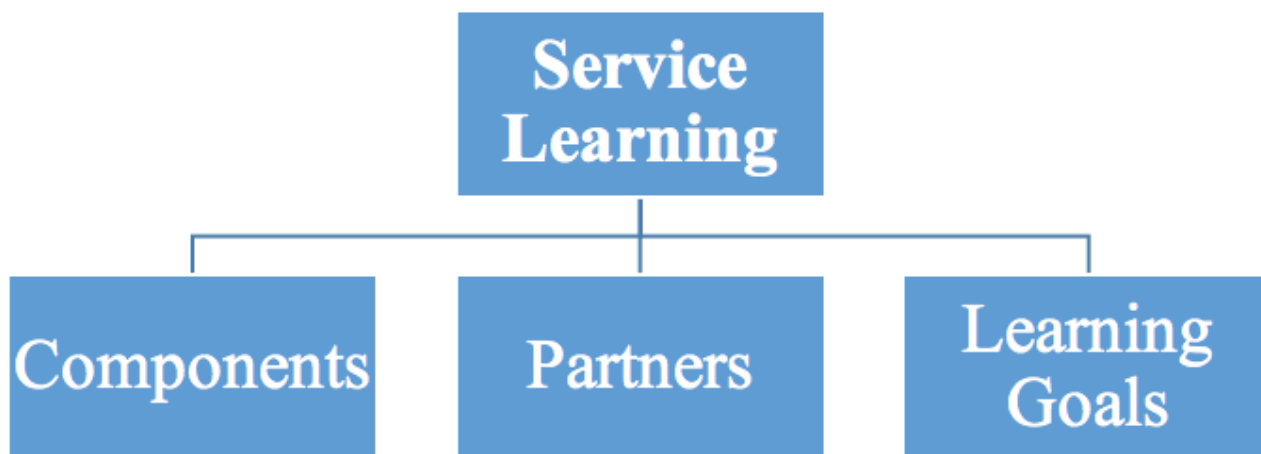
Literature Review

Service-Learning

The theoretical origins of service-learning and its focus on experiential learning can be traced back to Dewey's philosophy on education (Giles & Eyler, 1994). Service-learning can be short- or long-term and include direct or indirect responsibilities that are collaborative or self-directed. With the various types of service-learning opportunities available, students are able to participate in service-learning in the community, within a professional setting through an internship, and/or professional development through an employer. Bringle, Hatcher, and McIntosh (2006) define service-learning as a course- and credit-based educational endeavor that requires students to participate in an organized community service activity and uses critical reflection as a means to further understanding of course content, personal values, and civic responsibility.

Sigmon (1979) developed three basic principles for service-learning: a) service learners should have control of the participation provided, b) learners should be well informed through their actions, and c) learners should be in control of what they are expected to learn. Within these guiding principles, there are three parts to the conceptual framework for service-learning (Figure 1): a) components, b) partners, and c) learning goals. The components include academic material, relevant service, and critical reflection. The partners are students, faculty, staff, and community members. The learning goal categories are civic learning, personal growth, and academic learning (Felton & Clayton, 2011).

Figure 1: Service-Learning Conceptual Framework

Learning Goals

A primary focus of this study was on the comparison of learning outcomes attainment of adult students who participated in on-site service and those who participated in service online. Faculty who intend to develop a

service-learning course must consider the student context and what the service-learning experience will be, in addition to providing a summary of the short-term, intermediate, and long-term outcomes. Service learning has been linked to a variety of learning outcomes, including critical thinking (Bohlander, 2010; Sedlak, Doheny, Panthofer, & Anaya, 2003), communication (Borden, 2007), career and teamwork (Campbell & Sasnett, 2011), civic responsibility (Richards & Levesque-Bristol, 2016), global understanding and citizenship (Sauber, 2012), and academic development and educational success (Hébert & Hauf, 2015; Simonet, 2008). According to Celio, Durlak, and Dymnicki (2011), a meta-analysis of 62 studies revealed that students who participate in service-learning, as compared to their peers, exhibit significant gains in five learning outcomes: a) attitudes toward self, b) attitudes toward school and learning, c) civic engagement, d) social skills, and e) academic performance.

Prentice and Robinson (2010) note statistical evaluations of service-learning demonstrate students who engage in service-learning are more likely to have a higher grade point average compared to non-service learners. Furthermore, service-learners were more likely to achieve academic success and graduate to achieve career success. Service-learning supplements many of the skills that students learn during college, making it a beneficial educational strategy to contribute to academic and professional success.

Service-Learning and Adult Learning

Although much of the theoretical and empirical literature on service-learning does not include specific references to adult learning theory, the experiential nature of service-learning makes it decidedly adult-centric. Service-learning theory and adult learning theory are linked through experiential learning. Education for the adult learner requires active participation and a connection to the entirety of the learner's life experiences (Knowles, 1984), and adult learning theory has acknowledged the importance of connecting academic content to life experience (Dewey, 1938; Knowles, 1984; Kolb, 1984; Marienau & Fiddler, 2002). Kolb's (1984) experiential learning theory is used by researchers as the predominant conceptualization of learning in service-learning (Kiely, 2005), as service-learning facilitates a clear connection between the experience and academic learning (Bringle, Hatcher, and Muthiah, 2010).

According to McGorry (2012), the use of service-learning to connect experience with classroom content has the potential to create a powerful learning environment. Service-learning and experiential learning both require "real world" application. This connection is important for adult students as adults tend to connect what they are learning in the classroom to past experience, current life roles, or future life roles (Donaldson & Graham, 1999; Merriam & Caffarella, 1999; Tweedell, 2000). A suitable learning environment for the adult learner, then, is one that facilitates the connection of the academic and life-world knowledge structures of the adult student, and one that utilizes experiential and practical learning activities. Service-learning is a vehicle to enhance learning for adult students as it enables learning to take place where academic content, life experience, and practical application converge.

Service-learning and student success/satisfaction are positively correlated, regardless of age (Pascarella & Terenzini, 2005; Vogelgesang & Astin, 2000). Service-learning positively impacts learning outcomes, such as knowledge application in real-life settings, personal outcomes, such as self-efficacy, and the student's relationship with the university, or the student's sense of belonging (Bringle, Hatcher, & Muthiah, 2010). These outcomes are significant in relation to adult students as real world application, academic self-efficacy, and sense of belonging are key factors in adult student decisions to persist to degree completion (Bean & Metzner, 1985).

Although there seems to be a clear link between service-learning and adult learning theory, there is a limited understanding of the impact of service-learning on adult students (Smith, 2008). Reed and Marienau (2008) contend that adult students are interested in participating in service-learning opportunities if the service opportunities are designed with student knowledge and skills in mind. Adult students also prefer to self-select their service site based on personal and professional connections (Reed, Rosing, Rosenberg, & Statham, 2015), which empowers them to match the service experience to their personal and professional goals. Accounting for skill level when planning service opportunities for adult students makes practical sense considering adult students with more work experience are less likely to report that their service-learning experience increases skill development (Rosenberg, Reed, Statham, & Rosing, 2012). Rosenberg et al. also found that older students felt service-learning enhanced course content, but not to the same extent
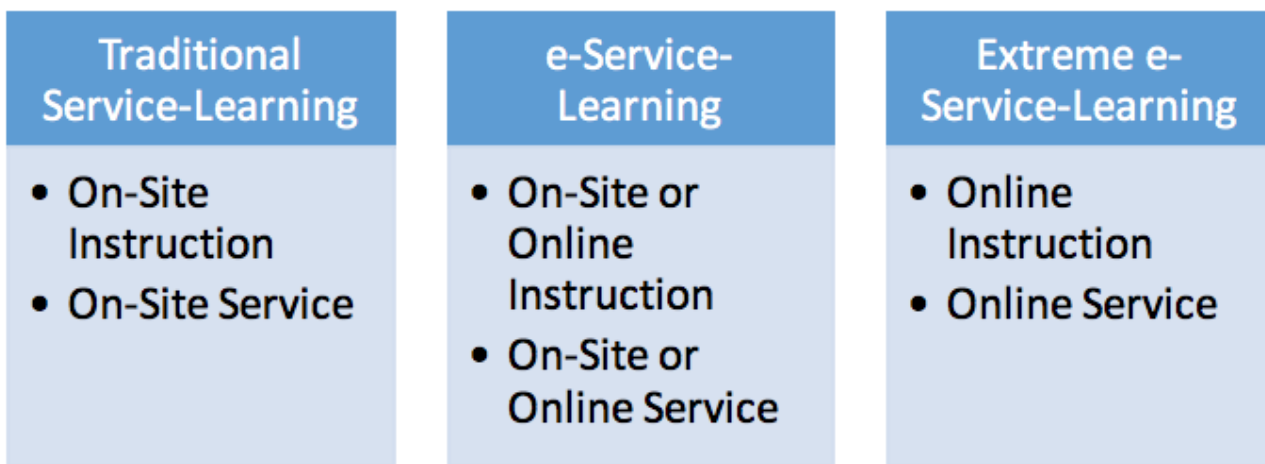
as younger students. To be effective, service-learning opportunities have to be meaningful and/or practically useful. Largent and Horinek (2008) found that adults who did not experience real-life application in their service experience were less satisfied with service-learning overall.

Service-learning can provide adult students with opportunities to learn something new or to apply learning and past experience in a practical setting, along with providing support to the community. Service-learning can have a positive impact on learning outcomes for adults, but adult students have limited access to on-site service-learning opportunities because they are primarily offered in traditional settings. The availability of online classes has increased adult student access to higher education. However, as more courses transition to online delivery, there is the real possibility that service-learning opportunities will not be carried over to the online modality (Waldner, McGorry, & Widener, 2012), which can have negative effects for online adult learners. For adult learners in online programs, service-learning opportunities are oftentimes completely out of reach or require site visits that do not fit into a complex schedule of academic, professional, and personal responsibilities.

E-Service-Learning

E-service-learning has the ability to increase access to service-learning for adult students by providing service opportunities outside of the traditional face-to-face setting. According to Waldner et al. (2012), a course is considered e-service-learning "when the instructional component, the service component, or both are conducted online" (p. 125). A traditional service-learning course requires both on-site instruction and on-site service. Any course that includes an online component, whether instruction, service or both, is considered an e-service-learning course. Waldner et al. propose a continuum for service-learning (Figure 2), with traditional service-learning on one end and extreme e-service-learning, where instruction and service are completely online, on the other.

Figure 2: Continuum of Service-Learning

Traditional Service-Learning	e-Service-Learning	Extreme e-Service-Learning
• On-Site Instruction • On-Site Service	• On-Site or Online Instruction • On-Site or Online Service	• Online Instruction • Online Service

Similar to research on service-learning outcomes for adults, there is limited research specific to e-service-learning (Sandy and Franco, 2014; Waldner et al., 2012). In a study on fostering a geographical sense of place in digital age service-learning, Sandy and Franco (2014) found fewer than 15 scholarly references directly related to online service-learning. Waldner et al. (2012) further illustrate the dearth of online service-learning literature in that they were forced to treat sources of different quality, such as peer-reviewed journal articles and webinars, equally in their review of the literature. They also point out that online service-learning literature is principally anecdotal.

Dailey-Hebert, Donnelli-Sallee, and DiPavoda-Stocks (2008) describe service-eLearning as "an integrative pedagogy that engages learners through technology in civic inquiry, service, reflection, and action" (p. 1). Straight and Sauer (2004) define distributed service-learning as instructionally supported online, face-to-face, or a combination of the two, with service in multiple areas in proximity to students. Sandy and Franco (2014) argue that these are not necessarily distinct approaches to online service-learning, but instead,

represent a continuum.

Waldner et al. (2012) view service-learning on a continuum, with traditional service-learning on one end, and extreme e-service-learning on the other. To provide a better understanding of the forms of e-service-learning situated between the extremes of traditional and extreme e-service-learning, Waldner et al. (2012) developed a typology of e-service-learning. Their review of the literature relevant to online service-learning revealed four distinct types of e-service-learning, three of which are hybrid in nature.

Waldner et al. (2012) define Type I e-service-learning as service-learning with on-site service and online instruction. Type II e-service-learning involves online service with on-site teaching. A blended format with both service and instruction partially online and on-site is referred to as Type III e-service-learning. In extreme e-service-learning (Type IV), service and instruction are 100% online. In practice, Type I e-service-learning is the most commonly used approach. Waldner et al. caution educators to be cognizant of the differences among the different types of e-service-learning. The authors assert that each type of e-service-learning exhibits different outcomes, associations, and limitations.

Guthrie and McCracken (2010) used a Type I e-service-learning course to explore student learning outcomes through participation in online instruction and on-site service. In particular, the authors examined student perceptions of participation in an online service-learning course while completing service on-site with a local organization. Participants in the study were enrolled in a community engagement course with a focus on positive social change. Instructional requirements included reflective exercises, including a journal and essays, an individual action plan, participation in online discussion, and 60 hours of community service. Students self-selected nonprofit organizations as service sites. The researchers found that students participating in online social justice instruction with on-site service experience reported positive impacts on their learning. This included the potential for positive social action within the student's local community. On-site experience emerged as one of the three main themes from the research that had the most impact on learning.

Carracelas-Juncal (2013) identified three main topics in a review of outcomes in a Type I, graduate level, Spanish, e-service-learning course: (a) approaches to selecting a service-learning site, (b) reflection on personal histories, and (c) perceived value of the service-learning experience. This particular course was designed to give students experience outside of the niche within a community. Self-selecting a service-learning site revealed the hesitance with which students approached engaging with individuals outside of their close group of associations. The service-learning experience served to reinforce student connections to their Spanish-speaking communities through reflection on their personal histories. The study participants identified different reasons, but all considered the service experience valuable. Although the reasons were different, each was related to increased social awareness and strengthening bonds within communities.

Sandy and Franco (2014) utilized online collaborative mapping as a method to facilitate a virtual sense of place in a Type I service-learning (optional) course. They maintain that valuing a sense of place in online courses with a traditional service-learning experience will strengthen student's sense of belonging to geographic locations, as well as encourage active participation in caring for local communities and their citizens. To facilitate a virtual sense of place, Sandy and Franco implemented online collaborative mapping in various online courses on social action and community problems. The mapping process allowed students to explore communities and identify CBOs, landmarks, neighborhoods, and crime/poverty statistics, as well as potential volunteer sites. The authors found that the shared experience of virtual collaborative mapping in the online course encouraged students to participate in service-learning. They also argue that including collaborative mapping in an e-service-learning course increases the potential for deepening a sense of place for civic engagement.

The previously reviewed literature on Type I e-service-learning courses reveals a similarity in learning outcomes that revolve around increased civic engagement. According to Waldner et al. (2012), one might expect that Type I e-service-learning would have increased civic engagement outcomes, especially compared to a Type IV, extreme e-service-learning course. In a study comparing learning outcomes of students in traditional service-learning courses and students in Type IV e-service-learning courses, McGorry (2012) found no significant differences in learning outcomes. McGorry compared student learning outcomes in four service-learning courses, two online and two face-to-face. One hundred five

students were asked to rate the importance of 12 benefits of service-learning.

The 12-item survey used in the McGorry (2012) study represented underlying factors of practical skills, interpersonal skills, citizenship, and personal responsibility. Included in practical skills were items on applying real-world knowledge, workplace skills, and organizational skills. Interpersonal skills included working with others, leadership, and communication skills. Citizenship addressed understanding cultural and racial differences, social responsibility, and ability to make a difference. Personal responsibility included items on social self-confidence, assuming personal responsibility, and being trusted by others. T-tests revealed no statistically significant differences between online and face-to-face students on any of the items. Although this study has multiple limitations, among them a relatively small sample size and respondents selected from a single institution, it provides a starting point from which to build a more comprehensive study comparing learning outcomes of students participating in on-site or online service.

Methods

The purpose of this study was to compare the experiences of adult students who completed the service portion of a service-learning course on-site and those who completed their service online. This study utilized a cross-sectional, concurrent, mixed-methods design. The participants for this study were identified using purposeful, non-random sampling techniques, which is considered a Type 4 mixed-methods design (Onwuebuzie & Collins, 2007). The use of non-random sampling was appropriate for this study as the intent was to explore and compare the lived experiences of adult students in on-site and online service-learning activities. Two specific research questions were addressed in this study: a) do adult students participating in on-site and online service projects report similar learning outcome measures and b) do adult students participating in on-site and online service projects share similar service-learning experiences? Quantitative and qualitative data were collected on a single survey instrument.

Quantitative Data and Analysis Procedures

In addition to collecting demographic information, quantitative data were used to compare learning outcome attainment between students who completed on-site and online service. Responses to a service-learning outcome scale (SLOS), designed by Prentice and Robinson (2010) and used with permission from the authors, were used to quantify learning outcome attainment for six learning outcomes: a) critical thinking, b) communication, c) career and teamwork, d) civic responsibility, e) global understanding and citizenship, and f) academic development and educational success. Scores on the SLOS were also used to quantify overall learning outcome attainment. Quantitative data were used to establish internal consistency reliability using coefficient alpha. Additionally, overall scores, mean scores, and standard deviation were calculated on the overall SLOS and each subscale of the SLOS. Analysis of variance (ANOVA) was performed to compare means scores for the SLOS and the scores on each subscale based on the type of service.

Qualitative Data and Analysis Procedures

Qualitative data consisted of responses to four open-ended questions. The questions were: a) do you believe this service-learning experience enhanced your ability to use critical thinking skills, b) do you believe this service-learning experience has encouraged you to actively engage with community outreach in the future, c) do you believe this service-learning experience promoted life-long learning, and d) do you believe this service-learning experience had an impact on networking opportunities for you?

A descriptive qualitative approach (Sandelowski, 2000) was used to explore and compare participants' experiences with on-site and online service. To conduct the analysis, participant responses were divided into two groups: a) on-site service participants and b) online service participants. The on-site category consisted of participants who were in a traditional service-learning course and those who were in a Type I e-service-learning course (instruction online, service on-site). The online category consisted only of students who participated in an extreme e-service-learning course (online instruction and service). Three researchers independently analyzed all student responses, then worked together to identify commonalities in the data. Then, the researchers employed the 10-step method for applying the constant comparative method (Olson, McAllister, Grinnell, Walters, & Appunn, 2016) to ensure coding was comprehensive and represented all the data. The three researchers then organized codes into logical categories and subcategories.

Data Collection

Data collection for adult students in a traditional service-learning course took place over a 30-day period. A link to the survey instrument was sent to each participants' institution provided email address. The survey was left open for 30-days with three reminders sent in weekly intervals until the survey close date. Data collection for adult students in an e-service-learning course took place within the course. Participants were provided a link to the survey within their final learning module in the online learning management system.

Participants

Participants in this study were adult students, as defined by age and social roles, selected from three universities in the southeast region of the United States. All participants (N = 112) were enrolled in a course that included a minimum service-learning requirement of 10 hours. Of all participants, nine were enrolled in a traditional (on-site instruction and service) service-learning course, 57 in a Type I (online instruction, on-site service) e-service-learning course, and 46 in Type IV (online instruction and service) e-service-learning course.

Female respondents outnumbered male 66% to 33% respectively, with one respondent (1%) self-identifying as other. The age break down of respondents was 18% aged 18 – 24, 33% aged 25 – 34, 23% aged 35 – 44, 19% aged 45 – 54, and 7% aged 55 and over. Ages ranged from a low of 24 years to a high of 77 years. White respondents accounted for 78% of study participants, 17% self-identified as African-American, 2% Bi/Multi-Racial, 2% Native American, and 1% Hispanic/Latino. Most study participants were employed either full-time (82%) or part-time (7%).

Survey Instrument

The survey instrument consisted of eight demographic questions, the 23-item SLOS (Prentice & Robinson, 2010), and eight open-ended questions. The SLOS is comprised of six sub-scales based on the following learning outcomes: a) critical thinking, b) communication, c) career and teamwork, d) civic responsibility, e) global understanding and citizenship, and e) academic development and educational success. One item on the original SLOS was not used in this study. Original reliability might not hold for modified instruments (Creswell, 2009), so the SLOS was reassessed for any variations in scoring due to the modification of the instrument (Table 1). All scale measures exhibited adequate internal consistency reliability measures.

Table 1

Reliability Coefficients of the Service-Learning Outcome Scale

Scales	Cronbach's Alpha	Cronbach's Alpha on Standardized Items	N of Items
SLOS	.958	.960	23
Critical Thinking (subscale 1)	.915	.920	4
Communication (subscale 2)	.914	.916	4
Career and Teamwork (subscale 3)	.913	.913	4
Civic Responsibility (subscale 4)	.918	.922	4
Global Understanding (subscale 5)	.880	.883	4
Academic Development (subscale 6)	.770	.789	3

Data Analysis

In total, the survey was made available to 242 students. Of those, 126 completed the survey, yielding a 52% response rate. Fourteen responses were excluded from the analysis because of missing item responses. Data from 112 respondents were included in the analysis.

Learning Outcomes

In order to determine if adult students participating in on-site and online service projects report similar learning outcome measures, six learning outcome measures were subtotaled. Scores on the subscales for critical thinking, communication, career and teamwork, civic responsibility, and global understanding could range from 4 – 24. Scores for the academic development subscale could range from 3 – 18. Table 2 shows the mean scores and standard deviations for each subscale. The table sorts respondents into two groups. One group represents scores from students who participated in an on-site service project and the other from students who participated in an online service project. The respondents were sorted based on a survey item asking if their service project was completed on-site or online.

Table 2

Means and Standard Deviations for Learning Outcome Measures

Learning Outcome	Type of Service	N	Mean	St. Deviation	St. Error
Critical Thinking	On-Site	66	21.05	3.06	.39
	Online	46	20.24	3.11	.46
	Total	112	20.71	3.10	.292
Communication	On-Site	66	22.05	2.36	.29
	Online	46	21.61	2.23	.33
	Total	112	21.87	2.31	.22
Career and Teamwork	On-Site	66	20.81	3.52	.50
	Online	46	20.30	3.38	.43
	Total	112	20.61	3.50	.33
Civic Responsibility	On-Site	66	21.52	3.01	.37
	Online	46	20.30	3.60	.52
	Total	112	21.01	3.30	.31
Global Understanding	On-Site	66	21.90	3.00	.37
	Online	46	21.60	2.22	.33
	Total	112	21.80	2.68	.25
Academic Development	On-Site	66	15.83	2.36	.29
	Online	46	15.20	2.18	.32
	Total	112	15.57	2.30	.22

A one-way ANOVA was performed to compare means based on the type of service to the total learning outcome score and each sub-score (See Table 3). The results showed there was a significant difference in the sub-scores of civic responsibility at the $p < .05$ level [$F (1,110) = 3.91$, $p = .05$]. Adult students who participated in on-site service scored higher in civic responsibility learning outcomes than adult students who participated in online service. There was no significant difference found in overall attainment of learning outcomes, or in any other individual subcategory.

Table 3

One-Way ANOVA Learning Outcome Comparison Based on Type of Service

		Sum of Squares	df	Mean Square	F	Sig.
Learning Outcome Total	Between Groups	420.952	1	420.952	2.107	.149
	Within Groups	21979.012	110	199.809		
	Total	22399.964	111			
Critical Thinking	Between Groups	17.624	1	17.624	1.858	.176
	Within Groups	1043.233	110	9.484		
	Total	1060.857	111			
Communication	Between Groups	5.171	1	5.171	.971	.327
	Within Groups	585.820	110	5.326		
	Total	590.991	111			
Career and Teamwork	Between Groups	7.157	1	7.157	.596	.442
	Within Groups	1321.557	110	12.014		
	Total	1328.714	111			
Civic Responsibility	Between Groups	41.180	1	41.180	3.912	**.050***
	Within Groups	1157.811	110	10.526		
	Total	1198.991	111			
Global Understanding	Between Groups	2.665	1	2.665	.368	.545
	Within Groups	796.335	110	7.239		
	Total	799.000	111			
Academic Development	Between Groups	11.023	1	11.023	2.104	.150
	Within Groups	576.406	110	5.240		
	Total	587.429	111			

* $p < .05$

Service-Learning Experiences

Qualitative data was used to explore the service-learning experiences of adults who completed a service project on-site and those who completed a project online. Participants were asked specific questions about their service-learning experiences based on critical thinking, civic engagement, lifelong learning, and networking. When asked about service-learning and critical thinking (Table 4), most students felt that their service-learning experience helped with problem-solving, content application, and confidence.

Table 4

Do you believe this service-learning experience has enhanced your ability to use your critical thinking skills?

Theme	
Problem-Solving	"We worked on starting a new student organization. I had to work with other students to think of activities that the student organization could do to help other students. This is an organization for online students, so there are problems coming up with stuff that all students can access. I worked with a group of students and we had to use ideas from everyone to figure out how to make things like mentoring work for online students. That whole process definitely improved my critical thinking skills." (Online Service)
Application	"The professor included assignments that forced us students to use the knowledge learned in some type of real-world application. This forced us to really learn instead of merely absorb the information for a time." (Online Service)
Confidence	"I had to use different abilities that I did not believe I had before this class and now I know I can do whatever I set out to do not matter how difficult the task is, I just have to keep trying until I succeed." (On-Site Service)

Students were asked if their service-learning experience encouraged them to actively engage with community outreach in the future (Table 5). Participants felt that their service-learning experience increased involvement and community awareness.

Table 5

Do you believe this service-learning experience has encouraged you to actively engage with community outreach in the future?

Theme	
Increased Involvement	"It didn't really feel like community outreach because we did everything online and by telephone. Now that I think about it, we were reaching out to other students and we also talked about a yearly community service project for the student organization. I did enjoy the experience, so I want to stay involved. I will probably help with whatever service project we do." (Online Service)
	"It has encouraged me to actively engage with community outreach in the future. I enjoyed helping my own community seeing individuals receive knowledge from me. People in my community know they can receive help from me." (On-Site Service)
Community Awareness	"Yes. Without completing this service-learning, I likely wouldn't have been aware of the needs of my community. This has given me a new perspective about my community." (On-Site Service)
	"Yes, I will never look at my community without asking myself what I can do to help improve it." (On-Site Service)

Students were also asked if they felt their service-learning experience promoted life-long learning (Table 6). Most participants responded that the service-learning experience enhanced their ability to apply what they learned in class now and in the future.

Table 6

Do you believe this service-learning experience promoted life-long learning?

Theme	
Knowledge Application	"Everything I've learned I will take it and use it for the rest of my life for sure. A lot of stuff I've learned has everyday issues and that's what makes paying for your degree worth it. Actually knowing and seeing where you will use what you learned makes it worth the debt." (Online Service)
	"Yes because most of the work I've done I can use in the future." (On-Site Service)
	"Yes, I do feel that this experience has promoted lifelong-learning. I have learned skills that I can use to help the community for years to come not just skills that were for the class alone." (On-Site Service)

Participants were also asked if any networking opportunities arose from their service experience (Table 7). The students felt that the service experience helped them build relationships and opened up opportunities that would not have been available without the service project.

Table 7

Do you believe this service-learning experience had an impact on networking opportunities for you?

Theme	
Relationships	"Oh yes. I met several directors of different CBO's and now have a better relationship with my employers because of this." (On-Site Service)
	"Yes. I was able to meet several new people at the organizations that we worked with. Many of us agreed to volunteer at future events with the organization." (On-Site Service)
	"I have met a few individuals that share some of my goals and ideas. This organization will only continue to grow and introduce me to like-minded people." (Online Service)
Opportunity	"Yes, my supervisor lives in the community, and he has seen my potential due to this experience." (On-Site Service)
	"I actually made a good contact with a manager at another large company in the area, we knew mutual people and enjoyed working together and getting to know each other. While on lunch break, I was able to discuss another nonprofit fundraiser coming up and hopefully obtained two new companies to participate this year." (On-Site Service)
	"I was able to obtain a full-time position in the Preschool program (volunteer site) after I had applied and interviewed the director of the program." (On-Site Service)

Discussion

The quantitative analysis of learning outcome measures revealed only one statistically significant difference in learning outcome attainment in comparing online and on-site service. Students who participated in on-site service reported higher learning outcome attainment in civic responsibility than did their online peers. This difference might be explained by a common theme in the qualitative data. Initially, students who participated in online service did not feel like they were actually part of the community they served. This

sense of belonging to the community developed over time for some participants, but it was not as strong as with students who participated in on-site projects. Also, all of the participants in on-site projects selected their own project sites, so it is possible there was a built-in sense of civic responsibility prior to the service project taking place.

The difference in civic responsibility outcomes in relation to service-learning site selection is of particular note when examining adult student experiences in service-learning. Buglione (2012) found that adult students felt they could have a greater impact on their local community if they could determine their own service-learning site placement. Additionally, previous research on adult students in service-learning has shown that adult students preferred self-selection of service sites based on personal or professional connections (Reed, Rosing, Rosenberg, & Statham, 2015) and how well the service site utilized the student's experience and expertise (Rosing, Reed, Ferrari, & Bothne, 2010). Although participants in this study were not asked about their attitudes toward selecting their own project site, or if their role in the selection process influenced their service-learning experience, the ability to self-select the service-learning site seemed to impact the overall service-learning experience. The extent to which this occurred was outside of the purview of this study.

The analysis of qualitative data revealed the overwhelming majority of on-site and online student experiences were similar. When asked if their service-learning experience enhanced critical thinking skills, three primary themes arose from participant responses: a) problem-solving, b) application, and c) confidence. Twenty-five percent of the participants specifically remarked that their service-learning experience enhanced their ability to solve problems, including looking at issues from multiple perspectives and solving problems as a team. Participants also felt that their service experience allowed them the opportunity to apply class content in a "real word" setting, which is of primary importance to adult students in service-learning (Largent and Horinek, 2008). The service-learning experience helped improve student self-confidence in their critical thinking skills. Respondents who completed on-site and online service projects had similar experiences.

Two themes emerged from participant responses when asked if their service-learning experience encouraged them to actively engage with community outreach in the future: a) increased involvement and b) community awareness. Approximately 72% of students specifically mentioned that their service-learning experience encouraged them to become more involved in their community either by service, outreach, or an increased sense of volunteerism. In some cases, students who completed their service project online expressed their desire for continued involvement in different ways, including a shift in perspective to the realization that serving the community online "counts" as community outreach. Online service students also tended to view their online experience as a gateway to volunteering on-site in their local community. A common theme across students in online and on-site service was an increased sense of community awareness, especially the role that the individual plays in the wider community. Students expressed their desire to apply their specific skill-set to community problems.

When asked if the service-learning experience promoted life-long learning, 85% of student responses focused on knowledge application. Adult students in on-site and online service appreciated the opportunity to directly apply knowledge from their course to a practical problem in the community. These students also acknowledged the value in acquiring and practicing new skills, both from a personal and professional perspective. Students did not only focus on the real-time application of knowledge but the future benefits of learning new skills. These findings support previous research linking skill development and practical application to adult student service-learning experiences (Largent and Horinek, 2008; Reed & Marienau, 2008).

The majority of students also found that their service-learning experience increased their networking opportunities. Two themes emerged related to service-learning and networking: a) relationships and b) opportunity. Students in online and on-site projects pointed to meeting new people or interacting with people they might not have had the opportunity to otherwise as a benefit of their service project. Several students in on-site projects identified opportunities for career advancement as a product of their participation in a service project. This outcome was not mentioned by students in online service, although students in online service projects typically worked closer with nonprofit directors. This can in part be explained by the difference in location between the project site and the student's home community.

In this study, we sought to learn if adult undergraduate students who participated in online service and those who participated in service on-site identify similar service-learning experiences. According to the data, the participants in this study experienced comparable outcomes and experiences in their service-learning opportunities. Both the quantitative and qualitative data support the fact that students, in each setting, had an overall positive experience. It is evident that each population benefited from the service-learning opportunities.

Conclusion

Adult students in online and on-site service projects in this study shared common, positive experiences. The differences in experience identified in this study were not so significant as to support an argument against the use of e-service-learning to increase access to service-learning opportunities for adults in online programs. On the contrary, students who participated in online service realized nearly identical outcomes and experiences as those in on-site service. The positive attributes of both online and on-site service identified by participants in this study raise the question why there are not more engagement programs and service opportunities available in the online format. E-service-learning proved to be a viable service option for adult students in this study. The results of this study demonstrate the potential for instructors in online learning environments to provide both blended and fully-online options for values development and practical application of course content through service-learning.

For future studies, service providers/community partners should be surveyed to consider if similar outcomes exist between those who provide on-site and those who provide online service opportunities. While the literature on students who participate in e-service learning is limited, research focusing on the benefits of e-service-learning for community partners is non-existent. Researching and examining the experiences of e-service-learning community partners could lead to more opportunities for the growing online student population. Additionally, research into the instructor experience in e-service-learning would provide insight and best practices for how to incorporate service-learning into the online environment. The most challenging aspect of e-service-learning occurs when the instructor manages multiple projects with multiple partners. It would be beneficial to examine the instructor-student-community partnership in e-service-learning courses.

Taking the outcomes of this study into consideration, it is evident that e-service-learning is both a practical and sustainable form of engaged learning. With institutions looking for more ways to appeal to the increasing market of the adult, working student, and ways to increase university/community partnerships, e-service-learning is an inventive method to address both of these targets.

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