INFORMATION SYSTEMS EDUCATION JOURNAL

Volume 20, No. 1
February 2022
ISSN: 1545-679X

In this issue:

4. Implementing Service-Learning in an IT Strategy Course
David M Woods, Miami University Regionals

13. Using Machine Learning Sentiment Analysis to Evaluate Learning Impact
Ibrahim Lazrig, West Texas A&M University
Sean L. Humpherys, West Texas A&M University

22. Reflections on the Creation of a Business Analytics Minor
Timothy Burns, Ramapo College of New Jersey
Cherie Sherman, Ramapo College of New Jersey

36 A Framework to Implement Academic Digital Badges when Reskilling the IT Workforce
Natalia Bell, Marymount University
Michelle (Xiang) Liu, Marymount University
Diane Murphy, Marymount University

47. IS Model Curriculum: Adoption Rate of IS 2010 Model Curriculum in AACSB Schools and Impacts of the Proposed 2020 Model Curriculum
Thomas Janicki, University of North Carolina Wilmington
Jeffrey Cummings, University of North Carolina Wilmington

iscap
Information Systems & Computing Academic Professionals

The **Information Systems Education Journal** (ISEDJ) is a double-blind peer-reviewed academic journal published by **ISCAP** (Information Systems and Computing Academic Professionals). Publishing frequency is six times per year. The first year of publication was 2003.

ISEDJ is published online (https://isedj.org). Our sister publication, the Proceedings of EDSIGCON (https://proc.iscap.info) features all papers, panels, workshops, and presentations from the conference.

The journal acceptance review process involves a minimum of three double-blind peer reviews, where both the reviewer is not aware of the identities of the authors and the authors are not aware of the identities of the reviewers. The initial reviews happen before the EDSIGCON conference. At that point papers are divided into award papers (top 15%), other journal papers (top 25%), unsettled papers, and non-journal papers. The unsettled papers are subjected to a second round of blind peer review to establish whether they will be accepted to the journal or not. Those papers that are deemed of sufficient quality are accepted for publication in the ISEDJ journal. Currently the target acceptance rate for the journal is under 40%.

Information Systems Education Journal is pleased to be listed in the Cabell's Directory of Publishing Opportunities in Educational Technology and Library Science, in both the electronic and printed editions. Questions should be addressed to the editor at editor@isedj.org or the publisher at publisher@isedj.org. Special thanks to members of ISCAP/EDSIG who perform the editorial and review processes for ISEDJ.

2022 ISCAP Board of Directors

Eric Breimer
Siena College
President

Jeff Cummings
Univ of NC Wilmington
Vice President

Jeffry Babb
West Texas A&M
Past President/
Curriculum Chair

Jennifer Breese
Penn State University
Director

Amy Connolly
James Madison University
Director

Niki Kunene
Eastern CT St Univ
Director/Treasurer

RJ Podeschi
Millikin University
Director

Michael Smith
Georgia Institute of Technology
Director/Secretary

Tom Janicki
Univ of NC Wilmington
Director / Meeting Facilitator

Anthony Serapiglia
St. Vincent College
Director/2022 Conf Chair

Xihui "Paul" Zhang
University of North Alabama
Director/JISE Editor

Copyright © 2022 by Information Systems and Computing Academic Professionals (ISCAP). Permission to make digital or hard copies of all or part of this journal for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial use. All copies must bear this notice and full citation. Permission from the Editor is required to post to servers, redistribute to lists, or utilize in a for-profit or commercial use. Permission requests should be sent to Paul Witman, Editor, editor@isedj.org.

INFORMATION SYSTEMS EDUCATION JOURNAL

Editors

Paul Witman
Editor
California Lutheran University

Thomas Janicki
Publisher
U of North Carolina Wilmington

Donald Colton
Emeritus Editor Brigham Young University Hawaii

Dana Schwieger
Associate Editor
Southeast Missouri State University

Ira Goldman
Teaching Cases Co-Editor
Siena College

Michelle Louch
Teaching Cases Co-Editor
Carlow College

Brandon Brown
Cyber Education Co-Editor
Coastline College

Anthony Serapiglia
Cyber Education Co-Editor
St. Vincent College

Implementing Service-Learning in an IT Strategy Course

David M. Woods
woodsdm2@miamioh.edu

Computer & Information Technology Department
Miami University Regionals
Hamilton, OH 45011, USA

Abstract

Students studying technical fields like IS/IT (Information Systems/Information Technology) face the challenge of showing potential employers that they have done work for real clients, not just course projects that are never used. At the same time, instructors face the challenge of actively engaging students in learning course content and understanding how to apply course content in different situations. Previous work shows that service-learning can be a valuable tool to improve student engagement while offering an opportunity for a real-world learning experience. However, the existing literature provides examples of using service-learning in various IS/IT courses but with little discussion of service-learning in IS/IT strategy courses. This work discusses implementing a service-learning project with a local non-profit organization in an IS/IT strategy class. Details of the design and implementation of the service-learning project and assessment from the student, instructor, and client perspectives are provided.

Keywords: Service-learning, IT Strategy, Pedagogy

1. INTRODUCTION

As students move through a program of study, different types of course activities and assignments are needed as students advance to upper-level courses. From the view of Bloom's taxonomy, students need to progress from remembering and understanding ideas to analyzing and connecting ideas and ultimately creating new work (Armstrong, n.d.).

A different way to view the process of IS/IT education is that individuals enter as students and leave as workforce ready IT professionals. The concept of engaged learning argues that during a course of study, students should evolve from being given knowledge to a state where they can actively discover new knowledge (Hodge, Baxter Magolda, & Haynes, 2009).

A common way of achieving this in IS/IT courses is active learning. While active learning can be done individually, group projects increase the size and complexity of the problems that students can be asked to solve. Working in groups is also a better match for what students will experience once they become working IT professionals. However, group projects introduce new challenges, including communication, participation, and accountability (Bakir, Humpherys, & Dana, 2020).

While many techniques can be used to improve the operation of student teams, an additional challenge of course projects can be the artificial nature of the project. Class projects rarely produce something that is used once the course is over. Service-learning, where a course project develops a solution to a problem faced by a community partner, offers a way to address this concern.

Implementing service-learning in an IS/IT course presents some challenges, but previous work has documented many successful examples and suggested methodologies (Lee, 2012; Leidig &

Lange, 2012; Wilcox & Zigurs, 2003). Several of the documented examples involve system analysis and design. However, the use of service-learning in an IS/IT strategy course, where the focus is on the organizational strategy and decision making efforts that occur before detailed system analysis and design, is scarce. This work documents how a service-learning project was implemented in an IS/IT strategy course, along with an assessment of the project from the perspective of the students, instructor, and community partner.

2. BACKGROUND

Service-learning is a pedagogy that combines learning with community service. Service-learning is one of the high impact practices that "have been widely tested and have been shown to be beneficial for college students from many backgrounds" (Kuh, 2008, p. 9).

In addition to the concept of learning by doing, service-learning adds the concepts of working on a real-world project and providing a civic service to the local community (Heffernan, 2011). In addition, as Zlotkowski discusses, service-learning can help "students develop on a variety of levels – technical, interpersonal, and ethical (Zlotkowski, 1996, p. 15)."

Many articles review the observed benefits of service-learning in general and in the IS/IT curriculum. Service-learning is found to improve students' engagement in learning and understanding of course content and allow students to demonstrate their experience (Wei, Siow, & Burley, 2007). Wei also notes, "that service-learning is well established in fields with a strong human component," which aligns well with Agile methodologies and topics like data analytics that require more human interaction from IT professionals. Service-learning can also be more "comprehensible to students than simple passive learning in the classroom (Tan & Phillips, 2005, p.58)."

Other observed benefits of service-learning include improved learning, improved communication skills, and a better understanding of the issues their community partners were working to solve (Preiser-Houy and Navarete, 2006). Service-learning also provides reciprocal benefits. By interacting with a community partner, students enhance communication and collaboration skills.

Saulnier (2005) identifies service-learning as a source of "significant learning" where students apply their knowledge, explore careers, develop civic literacy, and develop occupational skills. Several key characteristics of service-learning courses are identified. These include time for reflection, effort to foster the development of intangibles like empathy, a reciprocal relationship with the service-learning partner, work that has value to both the student and the partner, and work dictated by the needs of the community.

A systematic method for service-learning projects was proposed by Wilcox and Zigurs (2003). In this method, the instructor identifies and initiates a project before the start of the class. Students then use an interactive process to complete the project. An essential part of the service-learning project is communication between students, instructors, and the client. Wei et al. (2007) provide a helpful discussion on communication and information flows.

The literature contains many examples discussing the use of service-learning in a variety of IS/IT courses. Petkova (2017) provides a valuable overview and discussion of theoretical models. Leidig and Lange (2012) offer a valuable retrospective from a capstone course that does service-learning projects for non-profit organizations. Among the lessons learned are the work needed to build relationships and find projects, the need to prepare students to work with the clients, the demands on the instructor's time to manage the projects and student teams, and details of working with non-profit organizations.

A school's community engagement office can be a valuable source of information and support for service-learning efforts. Discussions with the university's service-learning coordinator identified two main requirements for service-learning projects. First, they must provide value to both the class and the partner, as discussed in much of the literature on service-learning. Secondly, the projects must be sustainable – they need to continue to deliver value once the class is over. Sustainability is a significant concern for IT projects since troubleshooting, enhancements, training, and other ongoing support are needed to ensure that technology continues to provide value. Concerns about support get little discussion in the literature.

3. PLANNING

Implementing service-learning in an IS/IT strategy course requires an understanding of the goals and learning objectives of both service-

learning and IT strategy education, so that course activities and assignments achieve both sets of objectives.

IS/IT organizations are always part of a larger organization and provide a service to the larger organization. A critical factor in successfully serving the larger organization is understanding the parent organization's goals and the plans and activities undertaken to achieve these goals. IS/IT strategy is the effort to ensure that an organization's use of technology is aligned with the parent organization's goals, plans, and activities. The IS 2020 model curriculum express this as "implementing and using organizational information systems to achieve strategic organizational goals and objective." (Leidig & Salmela, 2021, p. 58)

The IS 2020 curriculum documents an IS Management & Strategy competency area that includes the capability to develop, maintain, and consistently improve the systems to deliver the information necessary for an organization." (Leidig & Salmela, 2021, p. 58).

The literature on the use of service-learning in the IS/IT curriculum provides examples from various courses, but these do not include the use of service-learning in an IT strategy course. However, examples from system analysis and design and capstone courses provide some ideas that can be applied to an IS/IT strategy course.

The IT strategy course discussed in this work is an upper-level course that all students working towards a bachelors degree in Information Technology or Health Information Technology are required to complete in their junior or senior year. Prior to this course, students will have completed courses covering several technical topics along with a project management/systems analysis course to understand how to design and implement a solution to a specific problem. The IT strategy course covers many topics focused on how an IT organization must design, implement, and support the IT infrastructure needed for a company or organization to achieve its strategic goals

A service-learning project to help an organization make a strategic decision about their technology infrastructure would clearly connect to the content of the IT strategy course. Additionally, while the project should consider the resources and support needed to implement the decision, it allows a clear delineation between the decision and any following activity, addressing concerns about the sustainability of the work.

This project concept also allows the instructor to work with non-profit organizations to develop potential project ideas. A good project idea will be one where the organization has a clear idea of what they are trying to achieve and a clear idea of what resources, including time and money, are available.

4. IMPLEMENTATION

After considering the overall learning objectives of the course and the goals for using service-learning in the course, a problem-based service-learning approach was selected. In this approach, "students work with community members to understand a particular community problem or need (Heffernan, 2011, p. 3).

Several sources provide helpful guidance on implementing service-learning projects in IS/IT courses (Wilcox & Zigurs, 2003; Lee, 2012; Wei, Snow, & Burley, 2007). Following the suggestions of Lee (2012), the service-learning activities were designed to include both written reflection and discussion reflection. The course also had a weekly journaling activity that provided students an opportunity for additional reflection. For this activity, students were asked to write at least one paragraph with a prompt to "Discuss what you learned, found interesting, and/or didn't understand. The discussion should not be a summary of the class meeting, but should be your reaction to what we did in class." The weekly journal assignment also required students to pose two questions for discussion in class.

Activities for the service-learning project involved three main areas. First, the students worked to develop a clear understanding of the problem. To understand the problem, students needed to learn about the client, the context of the problem, and constraints on potential solutions. Then students worked to identify possible solutions. Finally, students assessed the costs and potential benefits of different solutions and prepared a business case for the client. In total, the assignments for the service-learning project were 10% of the total course grade.

The problem-based approach to service-learning meant that service-learning project activities were blended with other course activities. This approach allowed students to learn about IT strategy concepts and tools through class discussions, case studies, and text readings (Austin, Nolan & O'Donnell., 2016) and then apply these to service-learning project activities.

The course used several team-based activities, including student-constructed learning and debates, so work on the service-learning project was also designed to be team-based. Students maintained the same teams throughout the course.

For the session of the course described in this paper, the client for the service-learning project was a local senior citizens center. The project involved reviewing the central technology system used to run the center's activities. The instructor had previously worked with the center to migrate their e-mail system from a local internet service provider (ISP) to Microsoft Office 365. This previous experience gave the instructor confidence that this client and the specific project would be an interesting way for students to get real-world experience with the concepts introduced in the course.

Before the start of the semester, the instructor developed a clear understanding of the client's project and needs. The client was looking to answer three related questions:

- What alternatives existed to replace their current software?
- Should several paper-based processes be automated (using either their existing system or a new system)?
- What would be the costs and benefits of moving to a new system?

Competition for the center's limited resources, both financial and staff time, meant that the center could not commit to acting on any recommendations developed by the students. Still, the center had been considering these questions for an extended period and was eager to have help in developing a better understanding of the situation.

Once a project had been identified, the instructor met with the campus community engagement office to gain their assistance. In addition to providing valuable references on service-learning, the office helped the instructor gain a service-learning designation for the course. This designation meant that any student who completed the course would satisfy the service-learning portion of the university's general education requirements.

Initial discussions of the service-learning project took place on the first day of class. These made students aware of the client, project details, and how they were integrated into the course structure.

The next project activity took place during the fifth week of the class. The goal was to prepare students for an initial meeting with the client the following week. The instructor provided a brief introduction to the client and the project. Small group discussions were used to have students generate ideas about the value that a senior center provides to the local community.

During this class, the student teams were also introduced to their specific area of responsibility for understanding the client's requirements. Students were split into six groups of four. The focus areas included both functionality of the current system and the paper-based processes that would potentially be automated. The specific areas were:

1. Current system functionality from the user's (i.e., the senior citizen's) perspective.
2. Current system functionality from the staff/administrative perspective
3. Donor management functionality.
4. Transportation (potential functionality)
5. Meals-on-Wheels (potential functionality)
6. Adult Daycare (potential functionality).

Student teams completed an assignment to generate initial requirement ideas for their designated area and notes on the users associated with the specific activity assigned to the team.

The following week the team met with the senior center's executive director and administrative director. The executive director provided an overview of the center's mission and basic information about the center. Having students realize that 40% of the center's paid staff was present in the classroom provided a good idea of the center's limited resources.

The senior center staff members and the instructor then met with each student team to provide detailed information about the team's assigned area and answer questions. After the class, teams worked to document requirements for their area. Requirements were expressed as Agile user stories.

Following this class meeting, students also completed a research assignment. This assignment was an individual rather than a team assignment and used an online group discussion. Students were prompted to do online research in two areas:

- Potential software solutions to support a senior center.

- Research on other senior centers and how they use technology.

Students were required to make two posts discussing what they had found in each area and offering additional user stories. The instructor seeded the discussion by providing two example posts. Teams were expected to review the research discussion and add relevant user stories to the team's documented requirements.

Three weeks after the initial client visit (week 8), teams submitted a condensed, prioritized set of user stories to document the requirements for their assigned area. User stories were prioritized using the MoSCoW method (MoSCoW, n.d.), which was covered in class. The submitted user stories were posted to a content page in the course site in the university's LMS (Learning Management System) and were also discussed in class.

Following an assigned reading and class discussion of a sample request for proposals (RFP), students used the shared user stories to write an RFP for the project. This work was an individual assignment where the students provided background on the senior center, discussed the current state of the technology used to manage the center, and requested proposals to update this technology.

The instructor was able to arrange for a vendor to demonstrate one of the potential solutions. To prepare for this, each group identified a scenario relevant to their assigned area that they would like to see presented. In addition to letting students see one potential solution in action, the vendor demo also introduced students to the marketing and sales activities that are part of the technology selection process.

After the vendor demo, students completed a reflection on the demo. In their reflections, students posed several questions. The majority of the questions were not about the product but rather about the sales process, offering an opportunity for an impromptu class discussion about organizational purchasing and decision-making processes that can significantly impact the evolution of an organization's technology infrastructure.

After the vendor demo, the remaining project activities focused on preparing to meet with the client and make a recommendation. This work was broken down into three parts:

- Costs, especially non-financial costs.
- Potential benefits and how they might be measured.
- Non-functional requirements.

Students completed an assignment where they identified and discussed three items from each of these categories. To generate a broader range of ideas, this assignment was an individual rather than a team assignment.

The project concluded during the last week of the class with presentations to the client. Each of the six teams was asked to prepare a presentation discussing what the team thought were the two most essential items from each of the three categories (cost, benefit, and non-functional requirement). The teams presented two of these items, with the condition that they could not repeat an item that another team had already discussed. An additional constraint was that the client had to hear about items from all three categories. In addition to presenting, teams were also expected to respond to questions from the client.

At this point, the project was complete, although what action the senior center would take was unknown. The senior center staff enjoyed the presentations and felt that the information provided by the students would be very useful in conferring with the center's board of directors to decide how to proceed.

5. ASSESSMENT

The service-learning experience was assessed from several perspectives. Students were asked to complete an end-of-semester survey about course activities, including the service-learning project. The weekly student journals were also reviewed to identify observations and discussions about the project. The instructor also completed a project retrospective with the client and a personal retrospective on all aspects of the course.

Of the twenty-four (24) students enrolled in the course, sixteen (16) completed the survey (67 % response rate). The survey included Likert scale questions in several areas, including how the service-learning project aided learning, the value of the project, the effort required for the project, and whether students enjoyed the project. Full details of the questions and responses can be found in Appendix 1.

The first four questions used a 5-point Likert scale asking students to agree or disagree with the statements:

- I found the senior center project helpful in learning how IT organizations develop requests for changes to technology services.
- I found the senior center project helpful in learning how IT organizations work to document the costs of proposed changes to technology services.
- I found the senior center project helpful in learning how IT organizations work to document the value of proposed changes to technology services.
- I found the senior center project helpful in seeing how vendors demonstrate their technology solutions.

For all four questions, the average response was at least 4.4. Except for one neutral response to the second question, all responses agreed or strongly agreed. The question about the vendor demonstration received the highest average response at 4.8.

The next set of questions covered the value of the project to the student, both for their learning and the value of helping the community:

- I saw the value of the senior center project for learning the processes an IT organization might use to respond to requests for changes to technology services.
- I liked that the senior center project provided an opportunity to help a local non-profit organization.
- I feel that my participation in the senior center project will improve the center's use of technology.

For all questions, the average response was over 4.0. One student was neutral on the value question, with the rest agreeing or strongly agreeing. The students clearly appreciated the opportunity to help the local community, with an average response of 4.7 for the second question. The last question had a lower response with three neutral responses, possibly reflecting the fact that the center was still considering the students' recommendations when students completed the survey.

The final set of questions on the survey used a 7-point Likert scale to learn about the effort required for the project, student enjoyment of the project, and whether they would like to do service-learning projects in future courses:

- How effortful was it for you to participate in the senior center project?
- How much did the senior center project help you understand how IT professionals strategically manage technology services?
- How much did you enjoy the senior center project?
- How much would you like to do similar activities that engage you with proposed changes to technology services in a real organization in a future course?

The average response for the effort question was 5.1, with responses ranging from 3 – 6. This response was similar to responses seen in surveys about other activities in the course. For the second question, the average response was 5.9, with all responses in the 5 – 7 range showing clear value in helping students learn about IT strategy. The average response for whether students liked the project was 6.4, with the majority (56 %) of students selecting 7. For the final question about doing similar activities in other courses, the average response was 6.7, with a large majority (75 %) selecting 7.

Overall, the survey responses show that students found that the service-learning project helped them learn course concepts and did not feel that the project required any more effort than other activities in the course. In addition, students clearly appreciated the opportunity to help an organization in the local community. And the students greatly enjoyed the project, which always makes a class more pleasant.

The client retrospective was part of a follow up discussion with the client. The conversation collected feedback on the work done by the students and included a discussion of the client's future plans and how the instructor could continue to assist the senior center. The retrospective showed that the senior center director and staff saw significant value from the work done by the students. Shortly after the project started, the center had an issue with its current system and found it challenging to contact the vendor for support. The students' work throughout the project provided reassurance in knowing that there were several good options for replacing the current system.

Additionally, the senior center staff appreciated the knowledge that the students' shared in the final presentations. While most of the costs and potential benefits discussed in the presentations were not new to the senior center staff, they did appreciate the discussion of measuring the benefits of a new system. The concept of non-functional requirements was new to the center staff. They greatly appreciated the education they received from the students on topics including

support, security, availability, and user experience.

The center staff also appreciated other knowledge shared by the students in the discussions after the presentations. All of the potential replacement systems were cloud-based software-as-a-service (SaaS) solutions. Earlier in the semester, the class had engaged in a debate about the adoption of cloud and shared information about the pros and cons of cloud computing with the senior center staff.

From the instructor's perspective, the service-learning project was a success. The quality of work submitted by students for the service-learning project assignments met or exceeded expectations. It showed that students could apply what they were learning in the course in a new situation.

There were some initial concerns that a group of mostly traditionally aged college students would have trouble understanding what the senior center did and how it provided value to the community. This concern was not the case, and many students shared stories about how grandparents or other relatives were or could benefit from similar services.

The students' interest and engagement in the project were a pleasant surprise. Students regularly discussed the project in their weekly journals and made connections between new course content and the ongoing project activities. Students were also invested in the senior center, regularly asking when the center staff would be back to meet with the class. At the end of the course, several students asked to be updated on what the senior center decided to do and were pleased to hear that the center implemented the solution that had been demonstrated to the class.

Adding a service-learning project to the class did require additional work. Still, by carefully connecting the project activities to content and other activities in the class, there was little extra work required to teach the class. Building a relationship with the senior center and developing the initial project idea did take some time. However, this work counts as part of the service work faculty are expected to perform, so it has value outside the course. In addition, this project received some extra attention from colleagues and the school administration because of the engagement with the local community and the novelty of service-learning in IT relative to service-learning in other disciplines at the university.

6. CONCLUSIONS AND FUTURE PLANS

This project shows that service-learning can be successfully incorporated into an IS/IT strategy course. The project met the goals of providing sustainable value to the client while also providing support for student learning in the course.

Planning for other potential non-profit client projects has shown that the approach discussed in this work can be applied to other projects that would be appropriate for this class. There have been some challenges in continuing to use a service-learning project in the course. The main challenge is that the IS/IT strategy course is now taught in an online format that does not allow any synchronous class meetings, making it hard to have students engage with a client. As a consequence of recent experiences with synchronous online classes in response to the COVID-19 pandemic, there is some potential that this constraint may be relaxed.

The impact of COVID on non-profit organizations also presents another challenge. Non-profits have been impacted in several ways, from stress on fundraising to significantly increased demand for their services. Technology has the potential to help with all of these but is likely to be a lower priority while non-profit leaders and staff respond to more immediate concerns.

Overall, while this effort required significant time to develop a relationship with the client and plan the project, the rewards of the benefits to the client, the value to student learning, and the level of engagement students showed made this a very worthwhile and rewarding effort.

7. REFERENCES

Armstrong, P. (n.d.). Bloom's Taxonomy. Retrieved June 9, 2021, from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/.

Austin, R. D, Nolan, R. L., & O'Donnell, S. (2016). The Adventures of An IT Leader, Updated Edition. Harvard Business Review Press, Boston.

Bakir, N., Humpherys, S., & Dana, K. (2020). Students' Perceptions of Challenges and Solutions to Face-to-Face and Online Group Work. *Information Systems Education Journal*, 18(5), 75-88.

Heffernan, K. (2011). Service-Learning in Higher Education. *Journal of Contemporary Water Research and Education*, 119(1), 2-8.

Hodge, D., Baxter Magolda, M.B., Haynes, C. (2009). Engaged Learning: Enabling Self-Authorship and Effective Practice. *Liberal Education*, 95(4), 16-23.

Kuh, G. (2008). High-Impact Educational Practices: What they are, who has access to them, and why they matter. Association of American Colleges and Universities, Washington, DC.

Lee, R. (2012). Experience is a Good Teacher: Integrating Service and Learning in Information Systems Education. *Journal of Information Systems Education*, 23(2), 165-176.

Leidig, P. & Lange, D. (2012). Lessons Learned from A Decade of Using Community-Based Non-Profit Organizations In Information Systems Capstone Projects. In *2012 Proceedings of the Information Systems Educators Conference,* New Orleans, LA. 29(1968), 1-6.

Leidig, P. & Salmela, H. (2021) IS 2020: A Competency Model for Undergraduate Programs in Information Systems. Retrieved on August 26, 2021, from https://is2020.hosting2.acm.org/wp-content/uploads/2021/06/is2020.pdf

MoSCoW Prioritization (n.d.). Retrieved June 9, 2021, from https://en.wikipedia.org/wiki/MoSCoW_method

Petkova, O. (2017). Towards Improved Student Experiences in Service Learning in Information Systems Courses. *Information Systems Education Journal*, 15(1), 86-93.

Preiser-Houy, L. & Navarrete, C. (2006). Exploring the Learning in Service-Learning: A Case of a Community-Based Research Project in Web-Based Systems Development. *Journal of Information Systems Education*, 17(3), 273-284.

Saulnier, B. (2005). Service Learning in Computer Information Systems: "Significant" Learning for Tomorrow's Computer Professionals. *Information Systems Education Journal*, 3(10), 3-12.

Tan, J. & Phillips, J. (2005). Incorporating Service Learning into Computer Science Courses. *Journal of Computing Sciences in Colleges*, 20(4), 57-62.

Wei, K., Siow, J. & Burley, D. (2007). Implementing Service-learning to the Information Systems and Technology Management Program: A study of an Undergraduate Capstone Course. *Journal of Information Systems Education*, 18(1), 125-136.

Wilcox, E. & Zigurs, I. (2003). A Method for Enhancing the Success of Service-Learning Projects in Information Systems Curricula. *Information Systems Education Journal*, 1(17), 3-17.

Woods, D. (2020). Active Learning Using Debates in an IT Strategy Course. *Journal of Information Systems Education*, 31(1), 40-50.

Zlotkowski, E. (1996). Opportunity for All: Linking Service-Learning and Business Education. *Journal of Business Ethics*, 15(1), 5-19.

Editor's Note:

This paper was selected for inclusion in the journal as an EDSIGCON 2021 Distinguished Paper. The acceptance rate is typically 7% for this category of paper based on blind reviews from six or more peers including three or more former best papers authors who did not submit a paper in 2021.

Appendix 1

Survey questions and response data

Question	Likert Scale Max	Average	Standard Deviation
I found the Senior Center project helpful in learning how IT organizations develop requests for changes to technology services.	5	4.63	0.48
I found the Senior Center project helpful in learning how IT organizations work to document the costs of proposed changes to technology services.	5	4.44	0.61
I found the Senior Center project helpful in learning how IT organizations work to document the value of proposed changes to technology services.	5	4.63	0.48
I found the Senior Center project helpful in seeing how vendors demonstrate their technology solutions.	5	4.81	0.39
I saw the value of the Senior Center project for learning the processes an IT organization might use to respond to requests for changes to technology services	5	4.44	0.61
I liked that the Senior Center project provided an opportunity to help a local non-profit organization.	5	4.69	0.46
I feel that my participation in the Senior Center scheduling project will improve the center's use of technology.	5	4.19	0.63
How effortful was it for you to participate in the Senior Center project?	7	5.06	0.66
How much did the Senior Center project help you understand how IT professionals strategically manage technology services?	7	5.94	0.66
How much did you enjoy the Senior Center project?	7	6.38	0.78
How much would you like to do similar activities that engage you with proposed changes to technology services in a real organization in a future class?	7	6.69	0.58