Abstract

The spring 2020 semester brought a never before seen challenge for university faculty. The COVID-19 global pandemic caused universities to move to remote course delivery overnight. With most faculty unprepared to deliver courses online, hybrid or Hyflex, leadership at a regional, predominantly undergraduate university in the South turned to service-learning to address their needs. Faculty and staff who are experts in online learning pedagogy, educational technology tools, and online student services designed, developed and delivered professional development to interested faculty. This study addresses if the service-learning professional development provided the skill set and confidence needed to implement remote learning. Furthermore, the study sought to determine what modifications could be made if the program were replicated to ensure faculty obtained skills to successfully implement remote learning and how this training could lead to increased service-learning opportunities at this institution.

A Service-Learning Approach for Faculty Development Focused on Remote Delivery of Courses During a Pandemic

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Service-learning, although a recognized and a vital part of higher education initiatives, is now serving a new purpose in a COVID-19 world. Deck, Conner & Cambron (2017), report that service-learning is being adopted by higher education institutions at a rising rate. Coffey (2011) reports that in addition to higher education institutions utilizing service-learning programs at an increasing rate, that teacher education programs in particular are utilizing service-learning programs in new ways. However, the current pandemic presents unprecedented challenges and allows service-learning initiatives a unique opportunity to serve the needs of students and faculty at the higher education level.

In March of 2020, like most higher education institutions, a small, regional predominantly undergraduate institution in the South henceforth referred to as XU, moved all courses online due to the COVID-19 global pandemic. As with many institutions of higher education, faculty did not feel comfortable transitioning their traditional courses to a virtual learning environment due to a lack of pedagogical or educational technology training in this online only environment (Greeno, 2020).

As planning for Fall 2020 began, administration at XU planned for all courses to be delivered in a remote learning environment pending the rate of infection. Administration defined remote learning as Hyflex, hybrid, 100% online synchronous, and 100% online asynchronous teaching modalities.

The remote learning strategy was enforced by administration to ensure the maintenance of enrollment and the high-quality delivery of instruction. Particular emphasis was placed on introductory courses being taught using Hyflex methodologies to retain first- and second-year college students who are 66% first generation students. Hyflex course design is defined as a course that combines both online and face-to-face teaching with flexibility for students to choose how they attend a course without experiencing any learning deficit (Beatty, 2014). The majority of faculty at XU did not have experience designing or implementing remote learning methodologies as most pre-pandemic courses were delivered using the face-to-face modality.

Service-learning traditionally involves a course-based credit bearing educational experience in which students participate in an organized service-based activity that meets the needs of the community. In an effort to train faculty in how to deliver courses in a remote learning environment, XU's Office of Academic Affairs provided a voluntary three-week remote learning professional development. This course capitalized on the internal educational technology and online education pedagogy experts within the university to provide instruction to faculty and staff and created a learning community while the XU community was socially distancing. This professional development met the definition of service-learning within the XU community by allowing internal experts in pedagogy, educational technology and student services to deliver content to their peers. It also gave participants the opportunity to reflect on their experience in this three-week course and have a greater understanding of the course content. This delivery method provided a greater appreciation for the discipline and an enhanced responsibility to ensure high level instruction in a remote learning environment (Bringle & Hatcher, 2000). Faculty were the students in this service-learning experience and also provided professional expertise to the XU community.

Additionally, a learning community from within the XU faculty has evolved from this training. Pedagogy and content experts from the faculty are continuing to train others in this modality and sharing what educational technology, pedagogical techniques, and remote teaching and learning best practices are working or not working in their own courses creating a sustained service-learning opportunity amongst faculty and staff.

By implementing the practices of service-learning into a remote learning professional development environment, the possibility for the university to implement service-learning initiatives which are normally restricted academically, fiscally, or otherwise may be increased (Mayot, 2010). Remote learning offers an effective alternative to traditional methods of service-learning that schools have practiced previous to the COVID-19 global pandemic (Basham, Lake, Leard, et al., 2020).

The current study is intended to enhance the pedagogical and technical skills of faculty and staff at XU in order to enhance the teaching and learning mandated during the time of a pandemic. The study was conducted as experts in various fields provided learning opportunities online. The online model was chosen in order to improve the quality and productivity of instruction that could be given in a short amount of time and keep faculty appropriately socially distanced and safe during a global pandemic (Driscoll, Holland, Gelmon & Kerrigan, 1996; Greeno, 2000). The rationale for service-learning within the realm of professional development for faculty was necessary because of the immediate need for learning to occur in a remote learning environment.

By utilizing internal experts in their various fields as the providers of service, the initiative could be timelier, more effective and more efficient and cost effective. Researchers have explored hybrid learning in a faculty development context and suggest that this hybrid community approach creates a flexible and accessible environment for faculty to engage in critical reflection (Vaughan and Garrison 2006). Additionally, these types of professional developments lead learning communities focused on the specific teaching practice presented in the professional development.

While faculty and staff were pursuing their own models and best practices of online learning for their various fields, the university believed that providing a structured remote learning program provided by internal experts would enhance and assist the initiatives of faculty and staff to move into a remote learning environment. In support of these structured plans, XU created a Center for Teaching Excellence whose central goal will be to advance teaching and learning across the curriculum. The summer initiative was the first project of the new Center.

The purpose of this study is to identify how an internally led service-learning initiative impacts faculty and staff during a global pandemic. Through mixed method case study design, the following research questions were examined:

1. Can a service-learning initiative provide faculty and staff with the confidence and necessary skill set in educational technology and pedagogy to teach in a remote learning environment during the COVID-19 pandemic?
2. What service-learning initiatives were most highly valued by participants in the remote learning training?
3. What best practices and or topics for instruction would internal experts utilize if able to replicate this service-learning initiative in the future?
4. How can training in remote learning environments promote future service-learning at XU?

A Review of the Literature

Background on Covid-19 Outbreak

Covid-19, or the Coronavirus, is defined as a flu-like virus, particularly attacking the upper respiratory tract, making it particularly contagious and harmful (LDOE, 2020). In the Spring of 2020, on Monday, April 13, 2020, the state's governor officially closed any establishment that serviced over 250 people across the entire state (LDOE, 2020). This decision was rooted in the best interest and safety of local communities as a response to the Covid-19 outbreak; however, it closed schools and Universities effective Monday, March 16, 2020 (LDOE, 2020). XU moved to all distance learning courses beginning March 16 "for the foreseeable future" (XU, 2020). Distance learning is defined as learning that takes place digitally in-place of in-person learning in a traditional classroom (Traxler, 2020). Creating a rough transition for society as a whole, distance learning proved to be a challenge for educators to connect their students with both one another and the society around them through an educational setting (Traxler, 2020)

Defining Service-Learning

The process of connecting students with the community around them is defined as a type of learning method called service-learning (Mayot, 2010). Service-learning allows students to provide services to communities, usually those who are considered economically disadvantaged, and to participate in societal development (Mayot, 2010). Participating in service-learning as a student system can be rewarding, creating a deeper sense of civic responsibility (Cuenca-Carlino, Jozwik, Lin, et al., 2017). As a pedagogical method it bridges theory and practice, connecting the curriculum in the classroom with real world experiences and problems (Mayot, 2010). Stemming from universities, especially preservice teacher programs, service-learning is said to prepare citizens to live good lives in their communities (Basham, Lake, Leard, et al., 2020). It allows students to broaden their world views, understand different cultures, and learn about the community's way of life (Mayot, 2010).

While varying between campuses and grade levels, for the majority, service-learning is implemented through three major steps: preparation for activities, execution of activity, and reflection of the experience (Mayot, 2010). Preparation includes learning standards, connecting to community members, and taking care of scheduling and fiscal responsibilities. Execution refers to the actual service that the students provide to community members. Reflection refers to the process of a student internalizing, collaborating, and applying experiences gained through service (Mayot, 2010). By allowing for students of all backgrounds, circumstances, and academic standing to stand on equal footing, service-learning exposes students to career pathways and truly elevates an educational environment (Blanco, 2019). In the K-12 classroom, service-learning can be used to address nonacademic barriers to children's learning such as emotional imbalances, behavioral challenges, economic disadvantages, and family problems that can impact student success rates in school (Cuenca-Carlino, Jozwik, Lin, et al., 2017) As a whole, service-learning creates great partnerships between students and communities (Blanco, 2019), broadening perspectives on needs and assets of the community (Cuenca-Carlino, Jozwik, Lin, et al., 2017).

Service-learning and Faculty Development

Although many studies exist about how service-learning initiatives can impact student learning at the higher education level, very few studies exist about how service-learning impacts higher education faculty teaching and learning (Pribbenow, 2005). Service-learning has been described as a way to create conditions that support faculty growth and learning while improving teaching and learning expertise (Rice, 1996). Faculty have traditionally approached teaching and learning from an individualistic teacher centered, information dissemination model (Howard, 1998). However, to teach during a pandemic, faculty must learn not only how to use new techniques in delivering curriculum, but also how both student and teacher are responsible for the teaching and learning in a remote learning modality. Remote teaching is similar to how Zlotkowski describes the faculty experience in service-learning in which the faculty member is more like a co-teacher with their students in the context of their classroom community (1998). Pribbenow identified six consistent themes detailing how service-learning impacts

faculty teaching (2005). In this study, researchers identified similar themes within the provided faculty development including more meaningful engagement with teaching and learning, deeper connection to students as individual learners, enhanced student learning process and outcomes, increased use of constructivist teaching and greater involvement in teaching and learning communities.

Methods

Background

XU's Office of Academic Affairs provided a voluntary remote, 3 week learning professional development in July 2020. Part of the course completion was providing a final assignment in which faculty and staff write a reflection on how they will use remote learning pedagogy and educational technology tools in their fall 2020 courses.

The professional development was organized by university faculty and staff including those who are directly involved in student success and educational technology. The training was led by 12 faculty volunteers who provided their subject matter expertise on remote learning topics.

Although the training was delivered in a synchronous live format, all sessions were recorded and provided for asynchronous delivery for faculty and staff unable to join live. The faculty who participated in the training were invited to attend daily one hour zoom sessions. Participants also used daily forums and weekly question and answer sessions to participate with one and other and the course materials. All resources and discussion forums were captured on the university learning management system, Moodle. The following topics were addressed during this service-learning event:

Category	Topic Presented	Presenter Expertise
Educational Technology Tools	Best Practices in Screen Casting instruction	PhD Physics Professor of Physical Science
	Uploading screen casts to YouTube, Creation of YouTube channels and incorporating video into LMS	PhD Educational Technology Program coordinator: MED Educational Technology
	Synchronous Course Tools	
	"Ask the ed tech nerd" general Q/A	
	Google Essentials	EdD Instructional Technology Undergraduate Educational Technology Professor
	Advanced Google Tools	
	Physical classroom tools for Hyflex/Hybrid course delivery	PhD Educational Technology Distance Learning Coordinator

	Moodle training - basic and advanced	Instructional Technology Specialist
Best Practices/ pedagogy	Best practices in remote learning course design	PhD Business Administration and Computer Information Systems Director of Online Business Education
	How to make virtual teams and group activities work in a remote learning environment	PhD Business Assistant Professor Marketing and Managing
	Feedback and Assessment techniques in a remote learning environment	PhD Microbiology Assistant Professor in Teacher Education Program Director for Secondary Science Education
	Adopting remote teaching and learning to current course offerings	Instructor of English Department Languages and Literature
Student Services	Creating a syllabus for Gen Z	PhD Chemistry Assistant Professor of Physical Science

Analytic Strategy

Data was analyzed through a mixed methods design. Faculty who participated in the professional development took a post-training survey to determine their attitude towards remote teaching and learning as well topics that were most and least helpful for their course planning. Faculty also provided a reflection in which they discussed how they would implement this training in their fall 2020 courses. Faculty responses were coded to determine what educational technology they planned to use as well as specific pedagogical techniques.

Participant Demographics

182 faculty and staff members initially enrolled in the 3-week training and 155 of those enrolled completed the training. There was an 85% completion rate and of those faculty who completed the training, 110 took the survey or 71% of participants.

The majority of individuals who participated in the summer training were faculty who identified themselves as either assistant professor, 35% or instructor, 36%. Additionally, 10% of survey respondents were associate professors and 16% were full professors with the rest identifying as adjunct or visiting professors. The majority of survey participants have been employed at XU for either 0-3 years or over 10+ years and the majority identified as female. We are not sure if this is a direct relationship to who is currently employed by the university as human resource data is still pending.

Results

Research Question 1: Can a service-learning initiative provide faculty and staff with the confidence and necessary skill set in educational technology and pedagogy to teach in a remote learning environment during the COVID-19 pandemic?

Survey Questions and Responses	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
I understand what remote learning strategies are and how to use them.	51.8%	46.4%	1%	1%	0
I am confident in my ability to use remote learning strategies for Fall 2020 in my courses.	33%	59.6%	5.5%	1.8%	0
The remote learning professional development was relevant to my needs.	39.1%	41.8%	7.3%	2.7%	0%
The professional development enhanced my understanding on how to implement remote learning strategies.	45.4%	39.8%	5.6%	1.9%	7.4%
The remote learning professional development helped me gain new information and skills.	51.8%	37.3%	1.8%	1.8%	7.3%
The format and structure of the professional development facilitated my learning.	42.2%	37.6%	9.2%	2.8%	8.3%
The professional development provided useful resources for me.	60.6%	24.8%	5.5%	1.8%	7.3%

The majority of faculty and staff who participated in the training felt confident in their understanding of remote learning instructional methods as well as their ability to deliver instruction in this manner after taking the training. Faculty and staff had an overwhelming response to the feeling they gained new information and skills in remote learning, and that this training provided useful resources for fall 2020 instructional delivery. Finally, they also felt the format of delivery which commonly utilized the educational technology and pedagogical techniques presented during this training facilitated their learning. Faculty and staff noted in their open responses that they appreciated the recorded zoom sessions and discussion boards which allowed asynchronous participation. Brooks (2010) indicates that faculty find online professional development appealing to faculty who want to build skills/knowledge at times beyond campus business hours and that online forums are particularly ideal for new faculty who may not know where or from whom they should seek the support they need.

Interestingly, a small percentage of faculty consistently disagreed with statements involving gaining new information and skills, the format of the professional development and if useful resources were provided. In open responses many of the concerns affiliated with these low ratings were addressed. Faculty noted that they wished that this professional development was offered in a two-track format for beginner

and more advanced faculty. More advanced faculty expressed that they already knew much of what was presented in this training and did not gain new skills or understanding on how to deliver instruction in a remote learning environment. Other faculty expressed that they wanted more concrete examples on how to deliver instruction in a remote learning environment for courses that take place in a laboratory, studio or culinary setting.

Research Question 2: What service-learning initiatives were most highly valued by participants in the remote learning training?

Session Topic	Percent most helpful
All things Googles	66.4%
Advanced techniques in Moodle (LMS)	59.4%
How to Zoom	53.6%
How to create screencast videos and upload them to YouTube	50.9%
Best Practices for Screencast Videos	48.2%

Faculty selected the educational technology sessions as the most helpful including how to use Zoom, how to record and upload screencasts to YouTube, advanced Moodle training and all things Google. Interestingly, when faculty were asked what the least helpful sessions for planning fall 2020 instruction were, they named creating a syllabus for generation Z and evidenced based tips for making virtual teams. These student service topics appeared to be less valuable to faculty during this particular professional development. Faculty valued the most practical and applicable skills, which is consistent with prior studies that indicate effective faculty development program must contain components that have immediate face validity or components that can be immediately used in the participants' course (Bergqhist & Philips, 1975)

Knowing which sessions participants found the most valuable helps trainers understand what faculty currently want to feel prepared for a remote learning environment. It also indicates that future educational technology training would be valued by faculty at this institution.

Research question 3: What best practices and or topics for instruction would internal experts utilize if able to replicate this service-learning initiative in the future?

To identify what best practices or topics for instruction internal experts would utilize if they were to replicate the service-learning initiative in the future, researchers utilized faculty reflection responses. The responses indicated that the majority of participants were planning on using zoom during the fall 2020 semester. XU has a university license for Zoom which was made available during this training. Most faculty indicated using zoom to record and broadcast their classes with fewer indicating they would use other features of zoom such as polling or using the breakout rooms. The

majority of participants also indicated that they planned to use proctored exam software. Additional educational technology mentioned in faculty free responses that were not discussed in this professional development included Kahoot ®, Dropbox™, Podcasts and textbook specific online supplemental materials.

When asked how faculty plan to teach their courses in a remote learning environment, most indicated that they planned to use a flipped model of instruction. Bregman and Sams (2012) define a flipped classroom as one where students obtain resources through their learning management system prior to synchronous class. During synchronous instruction, the instructor guides students through active, collaborative and interactive problem-solving activities and consolidates practices applying prior obtained knowledge (Toto & Ngyuen, 2009) rather than spending course time using didactic lecture.

Faculty at XU who were delivering Hyflex, hybrid or synchronous online instruction indicated in their reflections that they planned to do activities in which students apply the knowledge they obtained prior to class, during their synchronous time together. This is in line with Johnston (2017) who indicated that advancement in technological tools such as interactive videos, interactive in-class activities, and video conference systems pave the way for the widespread use of flipped classrooms.

Research question 4: How can training in remote learning environments promote future service learning at XU?

Finally, having faculty understand how to execute remote learning could promote future service-learning by faculty. Remote learning can be a facilitator of service-learning. Faculty providing remote learning in courses frees up the geographic constraints on service-learning (Waldner 2012). Faculty learning how to use these educational technologies and how to deliver content in more effective ways will be encouraged to adopt service-learning in their own classrooms. As faculty get used to remote learning they can learn how to use these techniques to engage with students on a deeper level during class time. Additionally, that can free up instructional time for students to spend more time doing service-learning rather than receiving didactic instruction. Remote service-learning courses can provide new opportunities for civic engagement in which remote learning becomes a tool that expands working in a local community to working in a global community (Guthrie, 2010).

Best practices for both online and service-learning overlap. For example, a deeper connection with the students as an individual can be seen by using reflection. Quality reflection enables students to contemplate their own experience while simultaneously building and growing a community with other students in the remote learning environment (Mills, 2001). To maximize success in service-learning in a remote learning environment, training for all parties (instructor, students, the community partner, and the instructional design team) is critical. (Waldner, 2012). This applies to both technology use and service-learning. Therefore, the newly inducted XU Center for Teaching and Learning has included service-learning in a remote environment in its strategic plan.

This was the first-time faculty and staff at XU participated in a summer professional development that encouraged a university-wide adoption of pedagogy that supports remote learning. This service-learning met the university community's needs as faculty were required to provide Fall 2020 instruction using remote teaching methodologies. XU faculty and staff organized and provided the training in a synchronous and asynchronous manner utilizing live and recorded videos, discussion threads and reflection assignments. This training also created a cross-discipline learning community for those interested in expanding their online pedagogy skill set. In the open response section of the survey faculty indicated that their motivation for attending this professional development was to collect resources and connect with colleagues on a common issue. An unpredicted outcome of the service-learning experience is that a remote learning community of practice has developed. Faculty have continued to virtually share and connect their successes and failures from fall 2020. XU's Center for teaching and excellence plans to target this community of practice to encourage service-learning in future iterations of these faculty's courses.

The findings from this study are intended to be useful to other universities trying to provide a university-wide training in similar methodologies as well as the identification of commonly used technology and pedagogical techniques utilized by faculty at a public, regional, primarily undergraduate university during the COVID 19 pandemic. The themes of best practices in remote learning pedagogy, paired with educational technology tools were found to be the most helpful for faculty. Furthermore, the utilization of experts in the fields of pedagogy and educational technology at XU was found to be highly effective, removing the barrier of bringing in outside trainers for professional development. This university-wide remote teaching and learning training can lead to greater service-learning by faculty as they will be prepared to provide instruction to students no matter if they are on campus or at a community site.

In summary, the XU community led professional development was both necessary and well received during the COVID-19 global pandemic. Researchers hope that faculty will adopt some of the educational technology and pedagogical tools used during 2020 in future courses and the Center for Teaching Excellence can capitalize on faculty motivation and current skill set to encourage adoption of service-learning in their classes.

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