Using Service Learning and Virtual Team Projects to Broaden the Curriculum and Enhance the Student Experience

Darina M. Slattery and Michael P. O'Brien

Abstract

In recent times, there has been a steady increase in civic engagement activities in Irish higher education settings at both undergraduate and post-graduate levels. However, there is limited literature to-date describing the nature of these activities and how they have affected learning outcomes and enhanced the overall student experience. To that end, this article presents two case studies. The first describes how service learning activities were successfully integrated into the curriculum to facilitate students' engagement with the wider community, and the second describes how students were required to collaborate online in virtual teams. For both case studies, this article summarizes the project activities and describes the learning outcomes for students. It concludes with various suggestions for how these types of projects can be adapted for use in other disciplines and presents some considerations and recommendations for teachers.

Keywords

Service-learning; civic engagement; curriculum design; graduate skills; collaborative learning

Introduction

In today's global society, there is a need for graduates to possess skills other than just disciplinary knowledge; they also need to be culturally sensitive and in tune with the needs of the wider society and the forces that bear on it (Stearns, 2009). In addition, they need to be able to find their individual roles in global society (Bourn, 2010). This article outlines two projects coordinated by faculty members to develop graduates' skills and attributes. The first project requires students to engage in service learning to enhance their civic engagement, and the second requires them to collaborate virtually with students in geographically disperse locations. This article also highlights various issues that need to be considered by teachers implementing such initiatives in their own programs and makes recommendations for how similar projects could be adapted for other disciplines.

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Literature Review

Service learning and civic engagement

Denby (2008) describes service learning as a form of experiential learning, i.e., "learning from experience." Essentially, service learning has its origins in Dewey's (1938) theory of experience, which states that the interaction of knowledge and skills with experience is the key to learning (Jacoby, 1996). Morton and Troppe (1996, p. 3) further describe service learning as "a form of experiential education, deeply rooted in cognitive and developmental psychology, pragmatic philosophy, and democratic theory." Service learning is only one form of experiential learning. Other forms include volunteer programs and practice-based and community-based outreach. However, unlike the latter types, service learning is integrated into a curriculum and has the intentional goal of encouraging and developing civic skills along with fostering a sense of civic responsibility in students (Battistoni, 2000). Furco (1996, p. 38) describes service learning as "academic work in which the community service activities are used as a 'text' that is interpreted, analyzed, and related to the course content in a way that permits a formal evaluation of the academic learning outcomes."

Lee (2009, p.1) further defines service learning as "an instructional method in which students learn course content by actively participating in thoughtfully organized service experiences related to that content." In other words, learning takes place via *active* participation and immersion in carefully thought-out service that essentially aims to meet the respective requirements of the community. In order for the learning process to be enhanced, it is imperative that service learning be properly integrated into the curriculum, allowing for adequate time for all parties to self-reflect on the service experience itself.

In practice, "service learning theory begins with the assumption that experience is the foundation for learning and various forms of community service are employed as the experiential basis for learning" (Morton & Troppe, 1996, p. 21). The overall aim, therefore, of service learning is that students (with the guidance of academic staff), acquire valuable skills, increasing both their proficiency as practitioners and their knowledge of the field of study in a way that is sensitive to their individual abilities. Researchers such as Drane (2001), Morgan (2002), and Parker and Altman Dautoff (2007), amongst others, have found that students who are directly involved in service learning activities tend to develop a keen sense of citizenship and political astuteness.

In service learning, Bringle and Hatcher (2009) suggest that the most unique civic dimension of this pedagogical approach is that students not only "serve to learn" but also "learn to serve." Service learning enables students to interact with groups that they would not likely otherwise interact with; groups may include students from other disciplines/majors or external community groups or indeed a combination of both. Brody and Wright (2004) argue that it is these inter-group exchanges that essentially lead to the numerous positive outcomes for students involved in service learning activities. Most educational psychologists would concur that "one cannot share in discourse with others without [eventually] learning" (Denby, 2008, p. 22).

Howard (2003, p. 3) states that service learning is different from traditional teaching specifically with regards to "the role of the student, the role of the instructor, the kind of learning that is valued, and the emphasis on social rather than individual responsibility." Although service learning has generally been accepted and implemented as a sound pedagogical approach, it is only in recent times that it has gained more widespread recognition and support in educational institutions and across university programs. Students learn by interacting (and actively immersing themselves) within communities and are subsequently rewarded by academic credits at the end of the project/assignment.

Civic engagement, a form of service learning, can be defined as "collaborative activity that builds on the resources, skills, expertise, and knowledge of the campus and community to improve the quality of life and to advance the campus mission" (Bringle & Hatcher, 2004, p. 127). Student involvement in the community development process is beneficial to the professional and personal development of the individual and also to the overall functioning of community development initiatives. In the context of service learning and civic engagement, Harris, Denise and Thomas (1989) demonstrated that students benefit significantly when they "evaluate empirically tested community development knowledge and apply it in the community setting" (Honadle & Kennealy, 2011, p. 3). Students not only benefit from feedback through faculty members and the formal assessment system, but from real-world interactions with members of the community served. "Civic professionalism places scholars inside civic life rather than apart from or above it, working alongside their fellow citizens on questions and issues of public importance" (Peters, 2003, p. 185).

While similarities exist between Irish and U. S. higher education civic engagement activities, there are, however, some notable differences. For example, service learning program facilitators outside of the United States find that U. S. service learning models and their respective "terminology, design, and outcomes, are not directly applicable outside the U. S." (Iverson & Espenschied-Reilly, 2010, p. 3). Boland and McIIrath (2007) suggest that we need to examine the various ways social context and indeed culture shape perceptions with regards to service learning. They also argue that "localization" is paramount when introducing new pedagogical approaches in a culture and advocate for the development of a common terminology to standardize dialogue and conversation amongst academics, facilitators, and stakeholders alike.

The Irish experience

Service learning is well established and mainstreamed as part of teaching and learning within many higher education institutions internationally (Healy et al., 2014). However, there is limited information on the implementation and impact of service learning in the Irish context. With the exception of health science disciplines, it is only in very recent years that service learning has begun to take root within the Irish higher education curriculum (Lyons & McIlrath, 2011; McIlrath, 2012; Watson et al., 2011).

This emerging development has recently been supported by the Irish government's 2011 policy vision, which fully endorses the civic mission of higher education so that "higher education institutions should have open engagement with their community and wider society and this should infuse every aspect of their mission" (HEA, 2011, p. 12).

The recent significant growth in civic engagement activities in Irish higher education shows that there is an increasing keenness to incorporate the civic aspect into higher education in Ireland (McIlrath et al., 2009), particularly at postgraduate and professional development levels. The various reasons for this change in focus include the fact that civic engagement activities are now often considered for promotion and tenure purposes. Furthermore, the success of many service learning initiatives in the United States demonstrates that they can also have significant pedagogical merit. While there is a steady growth in civic engagement activities within the Irish higher education sector, what remains somewhat unclear is the exact nature and scope of such activities. To partly address this gap, this article describes a civic engagement case study in one Irish higher education institution. But before we discuss that case study, we will review some literature on virtual teams, as virtual teams are the focus of our second case study.

Virtual teams

Martins, Gilson and Maynard (2004, p. 808) define virtual teams as "teams whose members use technology to varying degrees in working across locational, temporal, and relational boundaries to accomplish an interdependent task."

Kayworth and Leidner (2000) identified four major challenges faced by global virtual teams: project management, communication, culture, and technology. To-date, a number of studies have examined the importance of team leaders to project manage virtual teams. Because virtual teams can be more challenging than face-to-face teams, project managers are essential to the success of a virtual team project. Bell and Kozlowski (2002) stated that team leaders are responsible for establishing trust, respect and obligation between team members; Lurey and Raisinghani (2001) stated that leaders must encourage and develop team member relations; and Chase (1999) argued that it is the responsibility of leaders to identify problems early on. In a virtual team environment, team members rarely meet one another face-to-face (if ever), so it tends to be more difficult to establish trust. In addition, problems can easily go unnoticed, so it is vital that a project manager or leader be aware of issues and able to act on them swiftly. In a study by Flammia, Cleary and Slattery (2010), where team leaders were not assigned by faculty members, the most successful student teams were those where team members voluntarily divided up the roles and responsibilities based upon individuals' strengths (by having, for example, a student with a strong background in computers serve as technology leader).

As regards challenges relating to communication and culture, Jarvenpaa and Leidner (1998) also discussed the importance of trust in virtual teams and found that trust must be formed early on in the project; as discussed earlier, the project manager can play a pivotal role in helping to establish trust amongst team members. On a related note, Coppola, Hiltz and Rotter (2004) found that a positive social atmosphere and predictable patterns of communication were essential if trust was to be established early on and maintained. Teams that do not engage in socio-emotional communication (i.e. any communication that is not related to the specific task at hand) sometimes have less overall subjective satisfaction with team projects (Flammia et al., 2010). Other issues relating to communication include miscommunication and a lack of shared understanding (Dickey et al., 2006); on a related note, a shared understanding can take longer to develop in virtual teams than in face-to-face teams. Cultural differences can also greatly affect the success of virtual teams (Vogel et al., 2001), which is why it is important to teach students about intercultural communication.

Virtual teams are not possible without technology, so appropriate technology choices must be made, particularly with regards the type of rich and lean media that should be used for communication. When the concepts of rich and lean media were first devised, face-to-face discussions were the richest form of media and the least rich (or leanest) media were formal numeric documents such as those produced in computer output (Daft & Lengel, 1983). Nowadays, rich media include videoconferencing capabilities. Rich media such as these should be made available to teams (Furamo & Pearson, 2006; Watson-Manheim & Belanger, 2002) as they facilitate immediate feedback, personalization, and nonverbal cues—features often found lacking in leaner media such as email and discussion forums. Nonetheless, sometimes team members welcome the delay provided by lean media if they are lacking in confidence or language proficiency and wish to consider their online contributions more carefully (Sivunen & Valo, 2006). Consequently, team members often mix-and-match lean and rich media, depending on the task at hand and the desired outcomes. A study by Flammia, Cleary and Slattery (2010) found that student teams

mostly relied on asynchronous lean media (in this case, email), even though rich media such as videoconferencing tools were also available to them.

In the next section, we will discuss one university's initiative to broaden the curriculum, as well as initiatives undertaken by individual faculty members to enhance the student experience, by introducing civic engagement and virtual team projects into the curriculum. Whilst these activities have been used internationally with great success, they are relatively novel in the Irish higher education setting and therefore warrant further study.

How to Broaden the Curriculum and Develop the Skills of Graduates

There is a growing awareness in the Irish higher education setting of the importance of achieving and maintaining a balance of *breadth* and *depth* by focusing on generic and transferable skills (particularly communication, innovation, and entrepreneurship), as well as experiential learning opportunities (e.g., community-based outreach and service learning activities). Curricula designers must focus not only on disciplinary competence and excellence, but also on ensuring that graduates are highly competent within their area of expertise and bring their disciplinary knowledge to bear on real world problems and challenges. Graduates must be confident enough to take action and initiative across a range of domains and demonstrate a continued commitment to lifelong learning and development of their respective skill sets, as these skills will be needed when they enter the workforce. They should continuously aim to adopt a responsible, civically aware, and engaged approach to their actions and decisions at work and in society, and higher education can help cultivate such an approach and attitude.

There are a number of strategies that can be employed by faculty members to develop these skills and attitudes, although the implementation of these strategies usually varies depending on the discipline being studied by the student. In a broadened curriculum, students should ideally be taught about the importance of intercultural communication and cultural sensitivity and also given opportunities to work with culturally diverse groups wherever possible. As discussed earlier, online media can result in additional issues such as lack of personalization and nonverbal cues, so students should also be taught how to behave and communicate online. Faculty members should showcase best practice in online communication and deal promptly with issues such as lurking and flaming. As most teams are virtual, to a certain extent, and communicate using leaner technologies like email, graduates are expected to be able to communicate clearly and effectively with team members, regardless of their geographical location. The ability to write for international audiences and localize global content are additional skills that should be nurtured in students, but unfortunately these skills are rarely taught in Ireland, except in some English and technical writing programs.

In the next section of this article, we will discuss two projects undertaken by faculty members that aim to develop these skills and attributes. The first project is a civic engagement project that required students to use their technical and communication skills to develop information resources for the wider local and national community. The second project is a virtual team project that required students to collaborate online with students in geographically-diverse locations, to develop websites.

Case study 1: A civic engagement project

This section of the article details a recent case study at the University of Limerick whereby faculty members adopted a technology-supported approach for service learning focused on civic engagement. The University of Limerick is well recognized for its pioneering pedagogy, including its long-established Cooperative Education program which facilitates student work

placements during their course of study. The University of Limerick (UL) Practicum, however, is a new initiative that enables undergraduate and postgraduate students to engage in projects in collaboration with internal faculty and external bodies. The ultimate pedagogical aim of the civic engagement project described in this case study was to engage master's level students with practical problems, build their core values, communicate the relevance of the research to them, and transform their learning through service learning so they would be better equipped to work in a global and multicultural society when they graduated.

The University of Limerick Practicum and the Ennis hub project

Ennis (Co. Clare, Ireland) has been proposed as a hub town by the National Spatial Strategy (NSS) for various reasons, including its location, infrastructural services, and community spirit. The UL Practicum has joined with the NSS in an attempt to enhance Ennis in that role, gathering the opinions of locals and creating a vision for the town of Ennis in the year 2020.

The assignment

For this particular assignment, M.A. students studying technical communication and e-learning were asked to appraise the existing Practicum website and to propose a suitable redesign. The students were also required to design and develop one of the Practicum sub-sites (the Ennis hub website) and in doing so liaise with all relevant parties (i.e. the general public, city councilors, and architects) in this regard.

The assignment comprised three parts. The first part involved an *individual proposal* for the redesign of the existing Practicum website. The second part consisted of a *group proposal* for the design and development of a new Ennis hub website and the third part required students to develop a *group website* for the Ennis hub.

The objectives of the assignment were as follows:

» To assess each student's ability to write an individual proposal for possible redesign or improvement of an existing website, taking into account the theories and practices of technical communication, information design, and interactive media, as covered on their program of study.

» To assess each student's ability to write a collaborative proposal for the design and development of a new website, taking into account the theories and practices he or she had studied.

» To assess each student's technical proficiency in using industry-standard tools to collaboratively develop a web site.

» To assess each student's ability to collaborate with peers on a real-world project.

Learning outcomes and the student experience

This pedagogical approach proved a very worthwhile exercise and had significant benefits for students in that they:

» Engaged in individual and team problem solving to meet the assignment brief.

» Developed their collaboration skills, both on- and off-line.

» Fostered links with industry and the wider community, not only online but also through face-to-face meetings.

» Showcased their technical development skills, culminating in a more grounded sense of self-achievement.

The following quotes from students involved in this civic engagement project help encapsulate its pedagogical merit:

i. "This project provided us with invaluable, on the job, work experience that we would have not gained if we had followed any other project route."

ii. "The chance to work with various clients, follow project briefs, be creative in our design work and work on four different development projects is something that we would recommend to any future students of the course."

iii. "We were able to develop our interpersonal skills, communication skills and presentation skills immensely as we attended and spoke at meetings throughout the course of the project."

iv. "By the time the project concluded our time management skills had improved tenfold and we will be able to transfer these skills to our careers in the near future."

Central to the overall success of this project was the way that it united students with community activists, policy makers, entrepreneurs, and academic staff. It is anticipated that future broadening of the curriculum efforts at UL will enable the development of students' life-long learning capacities and create new transferable skills, which will unite academia even more with the outside world. As stated earlier, this is a relatively new way of teaching in the Irish higher education system.

Case study 2: A virtual team project

Whilst the previous section of this article described a civic engagement case study, this section describes a case study about the virtual team projects which are coordinated annually by faculty members at the University of Central Florida (UCF) and UL. The students participating in the virtual team projects undertake various programs ranging from undergraduate English to postgraduate e-learning and technical communication (master's level). Whilst the specific deliverables differ from year-to-year, the objectives of these virtual team projects have included:

» Requiring students to collaborate online using lean and rich media technology.

» Requiring students to collaborate with students from different programs and cultural

backgrounds to develop project proposals and reports.

» Requiring students to use their research skills to research intercultural communication—a topic they must be aware of for their future work roles as Technical Writers, Instructional Designers, and Content Developers in international corporations.

» Requiring students to use their technical skills to design and develop websites.

Faculty research pertaining to virtual team projects between UCF and UL has already been reported extensively (see for example Flammia et al. (2010)). The virtual team case study discussed in this article, however, focuses more on the students' deliverables, as well as their experience and learning outcomes.

We will now focus our article on one iteration of the project, whereby master's level students were required to work in teams to design and develop websites about an aspect of intercultural communication. The students were told that the target audience for the websites was other students of technical communication and e-learning who were learning about the topic for the first time. Teams were required to assume that the audience included students from diverse cultures and they were given a list of possible topics that they could research, including introduction to cultural theory, guidelines for interacting across cultures, and writing for international audiences.

In terms of deliverables, each team was required to write an *initial group project proposal*, outlining the topic and scope of the web site they proposed to develop. They were also required to outline the resources they planned to use, as well as the prerequisite skills they were bringing to the project. Mid-way through the project, each team was required to write an *interim group project report*, outlining each member's role in the group, describing how they were using technology in their team activities, and showcasing examples of any

development work already undertaken. At the end of the project, the *completed website* was graded not only on the quality of the interface design, but also on the content and overall organization. *Individual wrap-up reports* gave students opportunities to discuss their personal experiences of working in a virtual team. In these wrap-up reports, students were asked to discuss how they used technology to communicate, to describe how they built a cohesive team, and to outline their positive and negative impressions of virtual teamwork as well as any recommendations they had for future virtual team projects. Finally, they were required to demonstrate the completed website to their classmates, via a *videoconference.*

Learning outcomes and the student experience

In terms of learning outcomes, the virtual team projects gave students opportunities to develop:

- » In-depth knowledge of some aspect of intercultural communication, as they were required to research the topic for their websites.
- » Written and oral communication skills, as they were required to write collaboratively for the Web.
- » On- and off-line collaboration skills, as team members had to collaborate face-to-face with their classmates, as well as with their teammates across the Atlantic. This also required them to become more globally aware and culturally sensitive in the online community of inquiry.
- » Technical skills, in terms of using Web 2.0 technologies (e.g., online chat and videoconferencing tools) and web development software (e.g., Adobe Dreamweaver).

In addition, the problem-based learning (PBL) nature of the project required students to engage in deep reflective learning as there was no "right answer." Instead, students were required to use their knowledge of theories, as well as technical skills, to meet the project brief as best they could. Students were required to

demonstrate not just discipline-specific excellence but also cross-disciplinary proficiency. The postgraduate students had to teach the undergraduate students and *vice versa*, and they had to learn to work together to create a project that best demonstrated their combined efforts.

As regards the student experience, many students were able to critique their own performances, as can be seen by the following comments extracted from post-surveys:

i. "We all very much felt a part of the decision-making process. … [And] it was a pleasure to work in the team… [because] we had a great work ethic."

ii. "Another successful strategy adopted by the team was assigning roles to each team member at a very early stage."

iii. "We were able to build a cohesive team because we stressed the personal relationship as well as the academic relationship."

In this project, we found that teams that engaged in non-task communication, as well as task communication, tended to trust their teammates more, tended to enjoy the project more, and were more successful as a result, in terms of final grades awarded.

Ways These Projects Can Be Adapted for Other Disciplines

Whilst not all teachers are involved in the disciplines of writing or technology, we believe that all teachers can leverage aspects of our student projects and adapt them to their own disciplines. For example:

- » Genealogy students could research the backgrounds of residents living in their area.
- » Nutrition students could develop handouts that promote healthy lunches for school-going children.
- » Business students could develop draft business plans for small businesses in their locality.

» Engineering students could design and develop a prototype for a start-up business.

» Archaeology students could design public spaces.

Further still, teachers could combine virtual team projects with service learning projects, by asking students to collaborate online with students in other countries to develop resources for the wider community.

Considerations and Recommendations for Teachers

Despite the many advantages of these projects, teachers should still be mindful of the challenges inherent in them. From a professional point of view, teachers need to give careful consideration to the implications for their workload and whether it is worth the effort in terms of outcomes for students. In service learning projects, success often depends on the commitment of external stakeholders, so there can be an element of uncertainty for students and teachers throughout the process. For example, if external stakeholders do not provide timely information, this can create unnecessary stress for students as they attempt to meet internal coursework deadlines. Service learning initiatives might not run as expected and teachers may have to make sudden decisions to facilitate students' completion of the project. Students expect their teachers to know what is going on but this is not always feasible; for some teachers, this is a major drawback. To counteract this, we recommend that teachers have a back-up plan (e.g., an alternative grading rubric) in case the external partners are unable to commit fully. Students should in no way be penalized if a project fails due to external reasons.

Virtual team projects require significant planning from the outset because teachers need to coordinate courses and write assignments that meet the curricular needs of both programs. If assignments are too difficult or guidelines are not clear, teachers may have to provide extensive support to students. Teachers need to be aware that virtual team projects will probably require significant input from them throughout the process, not just in the early planning stages.

Unfortunately, service learning and virtual team initiatives tend to be action strategies (driven by faculty members, from the bottom up), rather than policy strategies (facilitated from the top down), so there may be insufficient incentives for faculty members to get involved (Duster 2013). However, some higher education institutions have addressed this by considering such initiatives for tenure and promotion purposes. On a related note, Duster suggests that there could also be a "civic engagement ranking" for higher education institutions, whereby "each institution could generate its own version of such engagement, but the key measure would be student assessment in exit interviews or exit questionnaires" (2013, p. 46).

In addition to highlighting the professional challenges that may be faced by teachers, we can also make some practical recommendations that might help teachers implement these kinds of initiatives. Flammia, Cleary and Slattery (2010) found that virtual teams performed better if they were also given opportunities to engage in socio-emotional communication, not just task-oriented communication. To do this, teachers could arrange early-stage videoconferencing sessions, whereby students get opportunities to introduce themselves to one another but are not required to discuss the specifics of the assignment. Another strategy that can be employed is to co-schedule classes in both geographic locations and afford students some in-class time to work on their assignments; we found that this helped alleviate some of the time zone problems encountered by students.

Other recommendations include dividing team roles based on individuals' strengths, or at least advising students to do so if they are selecting their own roles; mixing students from different educational backgrounds and cultures; and issuing real-world projects

wherever possible, so students know that their efforts will benefit the wider community.

Finally, we recommend that students are given guidelines on:

» How to communicate online. We have found that many students are unaware of the nuances of online communication. Issues such as lurking and flaming are common but once students are given guidelines on what is/is not appropriate (i.e. basic netiquette), they are less likely to make those mistakes. Because our students were only from Ireland and the United States, there were few significant cultural differences; nonetheless, subtle differences such as different attitudes to work and sense of humor were evident at times.

» How to manage meetings. Students often find it difficult to manage meetings, particularly if they are undertaken entirely online. To facilitate these activities, we provided sample meeting templates and we recommended that they meet at least twice a week.

» How to deal with conflict. Because conflict is almost inevitable in teams, students need to learn to deal with minor conflicts themselves and only involve the teacher when their own attempts to diffuse the situation have failed. In our case study, common areas for conflict included uncooperative or non-participating team members and personality clashes. On a related note, we recommend that virtual teams comprise *at least* three members, because the loss of one team member can have major repercussions for the remaining team members. Also, we recommend having roughly the same number of students from each geographic location, to facilitate team dynamics and division of the overall workload.

Conclusions and Further Work

This article outlines some approaches taken by faculty members at one university to broaden the curriculum, develop graduate skills, and enhance the student experience. It also outlined some of the learning outcomes for the students involved. We highlighted some issues that need to be considered by faculty embarking on service learning and virtual team initiatives and made recommendations for how similar projects could be adapted by faculty members from other disciplines. One possible direction for future research could be to compare the learning outcomes of students who participated in similar projects, with those who did not. For example, it would be interesting to determine if virtual team projects lead to better learning outcomes than face-to-face team projects. ▪▪

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