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JAMES COOK
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SERVICE-LEARNING IN DESIGN EDUCATION

A thesis submitted by

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This dissertation is dedicated to the memory of my father, William Alvin Whitlock.

ABSTRACT

This research sought to reveal the extent to which service-learning in design education (SLIDE) provides a mutually beneficial experience for undergraduate design students and community partners. A two-phased, mixed-methods study, employing surveys and case study research, was conducted to address the main research question. During the first phase, an online survey was administered with design educators in Australia, the United States, and the United Kingdom to better understand the current practice of service-learning in design education. After this broad scan, a second survey was developed to discover the design-related needs that exist in the community, specifically at nonprofit organisations, thereby gaining perspective from the outside in. During the second phase, case study research was conducted at 12 sites to explain the results of the surveys and to holistically examine the university-community partnerships. The intersection of a service-learning taxonomy (Britt, 2009) with the orders of design (Buchanan, 2001) creates the theoretical framework for this research.

The findings demonstrate the benefits and challenges associated with service-learning for three stakeholder groups—undergraduate design students, community partners and design educators. This research confirms and extends theory in design (Buchanan, 2001) and service-learning (Morton, 1995; Britt, 2009). It also offers new insights into the roles that community partners play during design-related service-learning. The study contributes to what we already know about the complexities of design education in the twenty-first century and raises some important questions for the discipline in an effort to improve practice and build knowledge about SLIDE.

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Prologue

Since the role of the researcher in qualitative studies is considered a human instrument of data collection, the researcher has included relevant personal reflections in an attempt to make this perspective visible. This sort of involvement is seen as "an important part of on-going learning and an important way to develop greater practitioner expertise" for a practitioner-researcher (Punch, 2009, p. 40). These excerpts are included in this prologue, not to control bias, but to acknowledge pertinent past experience in graphic design and service-learning, and to show how this experience influenced the choice of topic and decisions about data analysis and interpretation.

The term "designer" means something different to nearly every person who utters it and hears it. "I am a designer," is the answer that I have given many times in response to the question, "What do you do?" I do not, however, have a Bachelor of Fine Arts in a design-related discipline; I have a Bachelor of Arts in communication arts with a minor in psychology. I do not have a Master of Fine Arts in graphic design; I hold a Master of Design in communication planning and information design. Even though my training is unconventional for a designer and design educator, after working for over a decade in the creative industry, I am most thankful for my liberal arts education. I am not explaining all of this to defend my role. Rather, I am highlighting the dissonance that exists between current design curricula and professional practice.

As a young designer, I put the technical skill that I had acquired in early versions of Adobe applications to work, but I also found tremendous value in the foundation that I had in communication theory and psychology. Because of this, I was able to see

design as more than merely making beautiful visuals. A successful solution to a problem had to address the client's needs and the users' needs.

Years later, when I was working as a creative director in North Carolina, I enjoyed another aspect of professional practice: the fact that design has no specialised subject matter. With every new client comes a new design challenge. The full-service agency where I was employed had a diverse clientele, so I was able to learn about many different industries—from healthcare to retail to financial services, real estate, education and food manufacturing. I was never expected to be the content expert, rather the process expert in 'design thinking'. This ability to think creatively often catapulted me into situations that I was surprised to find myself in. As a user-based designer in Sydney, I wasn't designing websites or sales collateral. I was actively participating in meetings with clients from the service sector—facilitating tough, strategic conversations to help them design better service experiences for customers. I conducted in-depth interviews with their customers, gained deep insights about their experiences and brought that perspective back to the business so that users' needs could be addressed.

Now, as an assistant professor in a graphic design program, I coordinate service-learning projects with a variety of community partners that address a range of issues—homelessness, mental health, autism, pediatric cancer, after-school programs and cultural festivals. I thoroughly enjoy learning about the different organisations, their service users, their programs, their challenges, and discovering opportunities for design to make a difference.

My interest in service-learning stems from my own educational experiences. When I reflect on my undergraduate and graduate education, the class projects that stand out

are ones with real clients that had real needs. These projects are unique because I was able to communicate directly with clients and understand the social impact that design could have. I invested a lot of time and energy in the concepts, which resulted in some of my strongest portfolio pieces. I was proud of that work and referred to it during job interviews, which gave me confidence in my abilities. This is similar to feedback that I've received from students who've participated in service-learning projects in my classes. Their comments indicate that these sort of projects make them work harder because it's meaningful and real, and that it forces them to think about things from another point of view (i.e. what the community partner needs as opposed to what they personally like). As an educator, I see service-learning as an opportunity for students to put design theory into practice and be engaged socially and civically.

Reflection on this experience influenced the choice of topic and decisions about the research methodology.

Chapter 1. Educating the 21st century designer

1.1 Introduction

The first few chapters of this thesis articulate a framework for a methodical study of service-learning in the context of design education. Before delving into definitions of service-learning or discussing issues of nature and qualification, this chapter focuses on issues of fact and existence to establish service-learning as a topic that needs to be researched in the discipline of design. To determine the scope of this investigation, some parameters were established early on. This study focused on design education in Australia, the United States of America (USA) and the United Kingdom (UK). While these countries differ significantly with regards to their population, demographics, taxation structure, number of nonprofit organisations and level of volunteerism, they are all English-speaking countries where design programs and community engagement are firmly established in higher education (Dolnicar & Lazarevski, 2009).

An increasing number of tertiary institutions in these countries have developed community engagement programs and are encouraging teaching staff to embed service-learning into the curriculum (Bringle, Hatcher & Jones, 2011). While this movement has thus far had limited impact on changing the educational system, it has steadily been gaining traction. In America, this progress is due in large part to the success of an organisation called Campus Compact. In 1985, Campus Compact started out as a small group of university presidents who pledged to "encourage and support education in service of civic responsibility" (Jacoby, 2009, p. 12). In 2016, Campus Compact had nearly 1,100 university presidents as members. Much of the advice to embrace service-learning has therefore come from the top down. Administration sees service-learning as a way for the university to engage with and

give back to the community, which aligns with their mission (Jacoby 2009; Butin 2010). In Australia, over half of the universities (26 out of 43) are members of Engagement Australia, an organisation that originally formed in 2003 as the Australian Universities Community Engagement Alliance (Bartkowiak-Théron and Anderson, 2014). In the UK, the National Co-ordinating Centre for Public Engagement was established in 2008. To date, 68 university and research institutions have signed their *Manifesto for Public Engagement* (NCCPE, 2015).

1.2. The current state of design education

This section highlights the challenges facing design education, inclusive of the factors affecting both professional practice and higher education.

1.2.1. What does it mean to be a designer in the 21st century?

At its core, design is about human communication – a person or group of people (designer or design team) wishing to communicate with another person or group of people (user or target audience). Many models of communication (linear, interactive, transactional) articulate these relationships in more detail (Wood, 2016), but this basic desire for communication can be found across all instances of the man-made world, from graphic design to systems design and everything in between. Style and aesthetics are essential parts of good design, and until recently, an equally important barometer for success involved design's ability to change human behavior. In the 1990s, professionals would determine whether a design was successful or not by measuring

change in activity or attitudes (Frascara, 1995, p. 51). But, according to Hartley (2009), "The days of the consumer as an effect of the agency of others are over" (p. 24). Design is not something done to another person. Designers, along with other professionals, are no longer the only ones producing content. In the age of user-generated content (UGC), consumers are also producers. UGC highly contradicts traditional views held by many creative professionals. John Hartley (2009) claims that to view consumers as "people that only appear as the end-point of a production process in which they play no creative or even active role" is a nineteenth century mindset (p. 3). This view of design is antiquated. A shift of power has occurred that is causing serious implications for design (Qualman, 2009).

Designers have historically been praised for their ability to produce, to create beauty in the world, to make products for others to consume. Since that aspect of design has opened up to anyone with design software, what then is the value of design?

Until recently, only a trained designer or developer could construct a unique-looking, fully-functional Web site. Now, with technology like Wordpress, Google Sites, Wix and Squarespace, a person with little to no knowledge of programming or markup languages can quickly and easily create and maintain a Web site. Since design problems are now being tackled by the masses, how do trained designers demonstrate their value? They must realise that the real problems in design are not 'design problems', because design itself has no specialised subject matter (Buchanan, 1992). Designers discover a subject with every new problem they face.

<u>1.2.2. Wicked problems in design</u>

The act of discovering a problem is arguably one of the most important parts of design, but it's becoming an increasingly difficult task as the role of design is changing (Parker, 2009; Tan, 2012; Cassim, 2013). Designers rarely find themselves working with well-defined problems where the goals are obvious, the approach can be replicated, and the solution is either right or wrong. Instead, they are faced with problems that are not clearly or easily definable, that require an innovative, somewhat experimental approach, and that have multiple, good solutions. They are faced with 'wicked' problems.

A 'wicked' problem, according to Horst Rittel and Melvin Webber who coined the phrase in the 1960s, is one that cannot be resolved with traditional analytical approaches, because the problem itself is ill-defined and involves social systems. They have been described as "a class of social systems problems which are ill-formulated, where the information is confusing, where there are many clients and decision-makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing" (Buchanan, 1992, p.14).

An example of a wicked problem could be that homeless families need to learn about support services. This problem is hard to define and even harder to approach. There's no easy strategy or solution. There can be as many different 'right' solutions as there are participants who think they have defined the 'right' problem. And, because wicked problems involve social systems where factors and relationships are ever changing, while attempting to solve one wicked problem, circumstances could change and create a whole new problem.

An example of a tame problem, in contrast, might be learning that your Web site is down. This problem can be easily defined and approached with linear thinking (e.g. check with your web hosting provider, discover that you forgot to pay the bill, make a payment, wait a few hours, the Web site is back up). In Rittel's (1972) opinion, the approach used to solve tame problems is reactive and follows eight steps: understand the problem, gather information, analyse information, generate solutions, assess the solutions, implement, test and modify.

Table 1.1 provides a comparison of wicked and tame problems. They differ significantly in both nature and problem-solving approach.

Table 1.1. Wicked problems versus tame problems

Wicked problems	Tame problems
Indeterminate problems with no definitive conditions	Determinate problems with definitive conditions
Non-linear model	Linear model
Design a good plan	Calculate a right or wrong solution
Rhetoric, Invention	Analytic, Logic
Conceive and develop what does not yet exist	Analyse existing material
"Homeless families need support."	"Our website is down."

Wicked problems are posing major challenges for design education in the twenty-first century. How do you teach students to define, approach and attempt to crack a messy, pervasive, ill-formed, social problem? Design thinking is one way.

<u>1.2.3. Design thinking in design education</u>

Design thinking is a strategic and innovative approach to wicked problem solving. According to Tim Brown (2008) of IDEO, a design and innovation consultancy, design thinking is "a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity" (p. 2). In other words, thinking as a designer would.

Design thinking is different from the type of thought processes that characterize schools of business, social science and fine art, and it is for this very reason that it is adding value to the world of business. The disciplines of business and social science have historically been driven by inductive reasoning, logic and reason, whereas decisions in fine art have been based on intuition, emotion and creative expression. Design involves a creative leap that attempts to solve a problem in previously unforeseen ways, something that Todd Wasserman (2008) calls "abductive thinking" (p. 2). It is a fresh perspective that asks people involved in a project to frame the problem from different points of view than their own. It's about seeing the whole system from both the inside and the outside.

Similarly, in his book *A Whole New Mind,* Daniel Pink (2006) describes the following 'high-concept, high-touch senses' or capabilities as key to success in the 21st century: design, story, symphony, empathy, play, and meaning. According to Coker (2010), designers have engaged three of Pink's qualities consistently in the past—design, story, and play (p. 7). In an attempt to build the remaining capabilities in students, Coker has developed a curriculum that focuses on "adding symphony through synergistic collaboration; empathy through development of differing perspectives;

and meaning through considered ethical foundations, unitary transformative learning, and commitment to fostering social ecology" (p. 7). While not all instances of design place emphasis on these areas, 'design thinkers' are valued for their ability to demonstrate each of these qualities.

Roger Martin of the Rotman School of Management believes that integrative thinking is key to solving complex problems. According to Martin (2009), integrative thinking is "the ability to face two opposing ideas or models and instead of choosing one versus the other, to generate a creative resolution of the tension in the form of a better model, which contains elements of each model but is superior to each (or all)" (p. 165). Some of the tensions that exist between opposing forces in design education are listed in Table 1.2. Instead of choosing between the opposing forces or two different schools of thought, integrative thinking suggests that design curriculum should resolve the tension with a hybrid model that is quasi-independent.

Table 1.2. Opposing forces in design

Analytical	Intuitive
Theory	Practice
Head	Hands
Philosophy	Application
Function	Form
Reason	Emotion
Lecture	Studio
Leader	Technician
Social Science	Fine Art
Reliability	Validity

How do you teach students to think like a designer without neglecting the making side of design? In recent years, design education has received criticism for placing too much emphasis on design thinking. The author of *Design schools: Please start*

teaching design again claims that these such programs are yielding lopsided designers who are conceptual and strategic thinkers but lack actual design skills and the ability to be detail oriented (Saffer, 2007). The founder and CEO of Jump Associates says, "If you teach design thinking, you're teaching talking: how to use words to describe design." (Wong, 2009) In response to this, one might ask why teaching staff in higher education are incorporating more content on design thinking? Is it just a fad? Do professors enjoy exploring the new domain of design thinking? Is it because design thinking provides the soft skills that will service students well in the future? Is it a desire to educate leaders as opposed to technicians? In "Hands On, Hearts On, Minds On: Design Thinking within an Education Context" (June 2013), Fatima Cassim argues that in order to advance design research and ensure that the profession of design survives, more emphasis needs to be placed on problem-solving methodologies. She presents design thinking as a way to address contemporary changes and approach social innovation projects.

When compared to writings about design from the 1980s, it's apparent how much the discipline has evolved over the past three decades. For example, at the Stanford Design Forum in 1988, Arnold Wasserman claimed that "schools train design technicians, we do not educate professionals … [Students] are thus hampered when they begin their careers not only by insufficient acquaintance with business culture but by a lack of awareness of their own design culture" (Meikle, p. 57). At the time, design as a discipline was still in an early formative stage. Building on this, Buchanan (1995) stated that design involves two components – the actual work of planning and making a product, and the ability to explain the results of design based on principles. He felt that most recent graduates were equipped to handle the art of making (the technical aspects of production) but struggled to explain their work, justify design

decisions, and persuade clients. Buchanan (1995) claims that "designers who possess only the skills of work are technicians; they practice a trade, not a profession" (p. 83). In contrast, designers who reach a position of authority among coworkers and clients are usually those who can "perform the actual work of designing and also explain the basis of their work to others in a manner that is pragmatically meaningful" (p. 83). A design leader is someone who has transformed from a maker of things to a design-thinking strategist. This is where higher education and vocational training or technical education differ.

Design programs now exist at nearly every level—from certificates and associate degree programs to bachelors, masters, and doctorate degree programs. If vocational and technical programs focus on the applied side of design and graduate programs emphasise the philosophical side (Australian Qualifications Framework, 2007), then what should undergraduate programs teach? Should they help students gain a mix of technical skill and design thinking, or be something completely different? Should they provide software training, or expect students to already be familiar with the tools of the trade? Should they teach design thinking, or save that for graduate school?

1.2.4. What competencies does a 21st century designer need?

According to the Design Skills Advisory Panel (2007), many recent graduates of design programs have strong portfolios, but they lack certain employability skills and professional experience in the creative industry (p. 25). Universities are feeling pressure to develop employability skills in students. According to a report published by the Australian Council for Educational Research, the concept of key employability

skills provides a bridge between education and work. (Curtis & McKenzie, 2002)

Employers include within generic employability skills an emphasis on basic skills, intellectual abilities, and personal attributes. Companies recognise the growing importance of information technology in business processes and see it as a basic skill. Intellectual skills such as problem solving and analysis continue to be sought, but changing patterns of economic competition and new forms of organisational structure have led to a greater emphasis on 'soft' skills. Soft skills include the personal attributes of teamwork, one's work ethic, a preparedness to be flexible and embrace change, as well as multicultural tolerance and social responsibility (Kyllonen, 2013).

Skill in many of these areas is desirable in the creative industry, which is a highly competitive job market. In the UK, there is an over-supply of designers, with "almost half as many students of design as there are designers in industry" (Design Skills Advisory Panel, 2007, p. 24) Recent graduates are therefore entering a very competitive world, which is forcing many to broaden their employment search and look for ways to apply their design skills to jobs in different industries. If ever there was a time when the possession of a bachelor's degree could guarantee someone employment, that time has passed. Today, job seekers must often get creative during their search so to stand out from the crowd. This raises the question: What skills do designers need in the twenty-first century?

Significant studies in design education have identified desirable skills and competences (Design Skills Advisory Panel, 2007; Visionary Design Council, 2008; Parker, 2009). To summarise this work, designers should be able to work in multi-disciplinary teams, develop empathy with stakeholders, help clients find and solve communication problems, engage in systems-level thinking, understand the

contextual forces that shape a project, build arguments for proposed solutions, use a variety of tools and technology and practice ethically. This range of skills and abilities differs from the skillset that designers had in the eighties and nineties, which focused more on forms and materials (Norman, 2010). Design problems are becoming increasing more complex and the role of the design professional is changing, but is design education changing to better prepare graduates for this complex operating environment?

1.2.5 The desire for community engagement in higher education

While tertiary institutions feel pressure to educate students for employability, another competing item on the agenda is that they are simultaneously striving to prepare students to be engaged citizens in the community.

In *Civic Engagement in Higher Education: Concepts and Practices*, Barbary Jacoby (2009) opens with the following statement: "Higher education is being called on to renew its historical commitment to its public purposes" (p. 1). Universities have long been in existence to serve their communities. One of the articulated purposes of the first college in America, Harvard, was to prepare graduates for active involvement in community life. John Dewey, as early as 1916, was writing about the need for students to engage in their local communities and focus on solving the existing problems. The difference now is that university leadership has finally agreed that, "the issues involved in promoting civic engagement ought to be high on the institutional agendas of their campuses." (Jacoby, 2009, vi) While there has been a drive for universities to reassert their civic mission, the debate about the effectiveness

of systematising community engagement continues (Butin, 2010). While some universities have on-campus support in the form of service-learning centres or community engagement offices intended to be a resource and help coordinate efforts, others are struggling to institutionalise it (Bartkowiak-Théron and Anderson, 2014) and are taking an experimental approach (Prakash, 2006; Jeffers, 2005).

In order for universities to effectively engage in civic learning, they must be willing to understand "how a community functions, what problems it faces, the richness of its diversity, the need for individual commitments of time and energy to enhance community life, and most of all, the importance of working as a community to resolve community concerns" (Jacoby, 2009, vi). This level of engagement would take a great deal of time, heart, knowledge and funding, but it is essential to ensure that universities truly are serving their communities. According to Boyer (1996), institutions of higher education should make use of their rich resources by applying them to a community's most pressing social, civic and ethical problems. To achieve learning outcomes that extend beyond the classroom, much care is needed to shape the structured learning opportunities for students.

1.2.6. How should design education address these issues?

While some of the goals of universities, students and communities are in alignment, there are also tensions between these stakeholder groups. This raises the question: How can design programs structure curricula in a way that benefits both the community and students?

Due to the wickedness of social problems in the community, experiential learning

appears to be a good way, but even under that umbrella, a plethora of terms have surfaced in academic literature, including but not limited to work-integrated learning, internships, scenario-based learning, community-based learning, authentic learning, participatory research, public scholarship, and service-learning (Kolb, 2014; Beard & Wilson, 2013; Furco, 1996). In discipline-specific literature, there are also a variety of terms, like public interest design, social impact design, and design for good (Lawrence, 2014; Anderson, 2014; Parker, 2009; AIGA, n.d.). While these approaches have their differences, they each demonstrate a desire to connect university and community, returning to the civic mission of higher education (Butin, 2010). They all focus on learning through reflection on doing (Dewey, 1938; Kolb, 2014), but service-learning is unique in that it encourages meaningful service to the community (Michigan Journal of Community Service Learning, 2001). The service activity gives students an opportunity to put theory into practice, which can help students make connections between the two (Dewey, 1938; Britt, 2009). This study will therefore explore service-learning as a way to build capability in designers.

Service-learning (SL) can provide students with a realistic place of practice full of 'wicked problems'. A key element of SL is that it allows students to "address complex problems in complex settings rather than simplified problems in isolation" and "engage problem-solving in the specific context of service activities and community challenges, rather than generalised or abstract concepts from a textbook" (Chaison, 2008, p. 16). Due to the messy, unpredictable nature of challenges, SL is facilitated by a teacher who emphasises reflective practice (Learn and Serve America, 2004). Reflection is necessary to provide context and meaning, especially considering that students will be dealing with problems of a complex nature in real time.

1.3 Service-learning in design

In true service-learning, students and the community mutually benefit from the experience. Design students have structured learning opportunities facilitated by a teacher and then use their skills and abilities to serve the community. While community partners receive pro-bono creative services and learn about design, they also teach students about business operations and social issues. This sort of reciprocity was achieved during a project at North Carolina State University (NCSU). The client (or "unclient" as the author states), Hip Hop Haven, is a nonprofit organisation that uses hip-hop music to reach out to inner-city youth and provide them with a home away from home (Meaney, 2010). They had recently moved into a new space that needed to be refurbished. Design students were brought in to raise awareness of the organisation and gain experience with exhibition design. In the process of outfitting the interior, Hip Hop Haven kids learned about photography and taught the NCSU students about hip-hop. The outcome of this project not only benefitted the students and professor, it also benefitted the organisation and its members.

The above example illustrates how service-learning can be more than pro-bono design; it can involve skills transfer and the formation of meaningful relationships. When the 'object of design' is considerate of the whole experience, service-learning has the potential to be human-centered and participatory.

1.3.1. Design-related needs in the community

A comprehensive understanding of the design-related needs that exist in the community is a current gap in literature. A multitude of government-funded programs and not-for-profit organisations provide much needed services to the community. In order to provide these services, nonprofits have to raise money. In order to raise money, they have to be visible. These organisations have significant design needs but little to no resources available for creative services (NPowerNY, 2010). Instead, funds are dedicated to business operations, like accounting and planning.

In a study by Dolnicar & Lazarevski (2009), nonprofit managers reported that their most important marketing activities are promotional in nature, yet only one in five staff are trained in marketing. Consequently, the staff who are creating newsletters, updating websites, sending email blasts and planning events do so with "little to no centralisation, coordination, time, training, budget, or support" (Durham, 2010, p. 3).

As mentioned above and listed in Table 1.3, there are a variety of ways that nonprofits promote their organisation—through print, online tools, mobile, on air and face-to-face communication. Of these channels, online and mobile is often more affordable than print and on air and allows organisations to effectively interact with people. Nonprofits have therefore been trying to figure out how to leverage online tools, like Facebook, YouTube and Twitter, most of which "require staff to monitor and support them on a daily basis" (Durham, 2010, p. 121).

Table 1.3. Five channels through which nonprofits communicate (based on Durham, 2010)

PRINT	ONLINE	MOBILE	ON AIR	IN PERSON
Annual reports Brochures Newsletters Direct mail Stationery Media kits Handouts Posters Signs/banners	Web site Email blasts Social media: - Facebook - Twitter - YouTube - LinkedIn - Flickr - Blog	Applications - Vote - Donate - Comment about events - Provide info Mobile sites	TV & radio commercials Public service announcements Podcasts News story Online videos	Meetings Programs Events Word-of-mouth

In addition to social media, an organisation's Web site is a large part of their online presence. The headline of an article in Co.EXIST read, "Nonprofits want to help people; they don't want to waste time and money working on their websites. But a website is an integral part of any nonprofit these days" (Cuskley, 2012). However, according to a study by Deloitte, "88% of nonprofits in the U.S. have little to no in-house IT resources" (NPowerNY, 2010).

The statistic above is about an organisation's deficits. Instead of focusing on deficiencies, asset-based community development investigates the resources that a community partner has that can be further developed and utilised (Cruz & Giles, 2000, p. 31). This research will attempt to assess the design-related needs and identify relevant assets that nonprofit organisations have.

Can design students align their skills with the community so to allow nonprofit and community organisations to properly promote and provide their services and thus make progress towards achieving their mission? If so, how would this work?

1.4 The purpose of research

The research question for this study is: To what extent is service-learning in design education mutually beneficial for design students and community partners? There are two main reasons to explore service-learning in design education (SLIDE): to build knowledge (why) and to improve practice (how). By gaining a better understanding of the benefits and challenges associated with SLIDE for both design students and community partners, this research will make a contribution to literature.

1.5 Thesis overview and structure

Research literature related to service-learning and design education is reviewed in chapter two. The theoretical framework that underpins this study is constructed in chapter three. It is an intersection of design theory (Jones, 1970, 1992; Buchanan, 2001b; Davis, 2005) and service-learning theory (Morton, 1995; Britt, 2010; Butin, 2010). Chapter three also provides an overview of the research methodology—a two-phased, mixed methods explanatory design (Punch, 2009). The design of phase one—an online survey with design educators and an online survey with prospective community partners—is discussed in chapter four (Dillman, 2009). The results of the surveys are analysed in chapter five. Chapter six explains the design of phase two, case study research (Yin, 2009), the results of which are shared in chapter seven. Chapter eight discusses the emergent themes from case study research in relation to the theoretical framework. The final chapter of this dissertation discusses the findings and implications of the study and the need for future research.

A list of references and the appendices, which include contact letters, information sheets, consent forms, survey questions and interview questions, can be found in the back of this thesis.

Chapter 2. Literature review

2.1 Introduction

This chapter discusses issues of nature and qualification. It aims to articulate what is known and not known about the topic of service-learning in design education. The chapter critiques 'research literature' related to both service-learning and design education to identify gaps and inconsistencies in the evidence (Punch, 2009). A review of 'theoretical literature' can be found in chapter three. Bloom's taxonomy guided activities during the initial and ongoing literature review (Shields & Rangarajan, 2013). Relevant literature was identified (remembering), read and comprehended (understanding), then connections to the topic were made (applying), frameworks were developed (analysing), content was examined (evaluating) and new insights were derived (creating).

In line with Bloom's first category (remembering), the following peer-reviewed academic journals, listed alphabetically, were identified as relevant to this study: *Australasian Journal of University Community Engagement, CoDesign: International Journal of CoCreation in Design and the Arts, Gateways: International Journal of Community Research and Engagement, International Journal of Art and Design Education, International Journal of Design Education, International Journal of Education and the Arts, International Journal of Technology and Design Education, Journal of Community Engagement and Higher Education, Journal of Community Engagement and Scholarship, Journal of Interactive Online Learning, Journal of Learning Design, Journal of Public Outreach, Michigan Journal of Community Service Learning, Partnerships: A Journal of Service Learning and Civic*

Engagement, Public: A Journal of Imagining America, and *Voice: AIGA Journal of Design.* In addition to searching for pertinent journal article in these publications, conference papers, dissertations and book chapters related to both service-learning and design education were carefully reviewed.

After Bloom's fifth category (evaluating), the following strengths and weaknesses emerged. The literature reveals a lack of cogent research on service-learning (SL) in general, which is a major issue affecting practice. In *Studying Service-Learning: Innovations in Education Research Methodology*, Billig and Waterman (2003) demonstrate the need for research in SL. They claim that the vast majority of published studies on SL are program evaluations or anecdotal descriptions. The problem with having a body of evidence comprised primarily of evaluation studies is that it severely limits the ability to make generalisations about the impact of SL and it restricts the ways in which the studies can be used to improve practice.

A look beyond research conducted in the United States revealed similar challenges. According to Service-Learning Australia Inc., "very little research has been conducted on service-learning in Australia." (Richmond, 2010) In fact, the first summit on SL in higher education, co-hosted by the Australian Collaborative Education Network (ACEN) and the Australian University Community Engagement Alliance (AUCEA), took place in Brisbane in 2011. Barbara Holland, a renowned service-learning practitioner, was one of the keynote speakers at the summit (Stephenson, 2011). Her presentation was centered around four themes:

- Knowledge and knowledge gaps about service-learning,
- How service-learning contributes to student learning outcomes,
- The importance of building equitable partnerships, and

- Service-learning compared to work-integrated learning.

Holland's main message was that Australia is ready for service-learning. Dr. Carol Nicoll, CEO of the Australian Learning and Teaching Council (ALTC), discussed the need for infrastructure (e.g. systems and funding) and leadership (both from institutions and the government) to support these efforts. While 'warm and fuzzy' success stories do matter, Dr. Nicoll firmly believes that an evidence-based approach is needed to clearly show the impact that SL has on students and the community (Stephenson, 2011). The implication is that without sufficient evidence, practitioners will encounter difficulties in obtaining funding to develop best-practice models. Her concerns are reiterated in *Knowledge in Action*, which highlights the progress of university-community engagement in Australia, but also illustrates the challenges facing the Australian engagement agenda, namely, "a deeper analysis of community engagement as a core activity of academia" so its importance to tertiary education can be understood (Bartkowiak-Théron & Anderson, 2014, p. 5).

Billig and Waterman's (2003) call for more research was later echoed by Dan Butin (2010), who lamented that, beyond anecdotal and retrospective self-reporting data, there is "simply no rigorous research of service-learning practice that begins to address this level of detail" (p. 16). Butin raises several important questions about reflection on service-learning. What should students reflect on? How long and how often should they reflect? Where should reflection be done – in class or out of class? What mode of reflection is valid? What level of detail should students strive for? And how should reflection be assessed? Answers to these questions will provide a much-needed understanding of how service-learning can best be facilitated and ensure that students are thinking about what they are doing (Butin, 2012).

Moving from the general to the particular, the review of discipline-specific literature further confirms the issues outlined above. After reviewing the American Association for Higher Education (AAHE) book series regarding service-learning in the disciplines and multiple volumes of *Recent Dissertations on Service and Service-learning Topics* by Learn and Serve America's National Service-learning Clearinghouse, it became apparent that academic research related to SL in the discipline of graphic design is limited. The AAHE book series is a collection of practical guides written by scholars for peers in their own discipline. Each volume discusses "how service-learning can be implemented within a specific discipline, and what that discipline contributes to the pedagogy of service-learning," as well as the "theoretical background and practical pedagogical chapters describing the design, implementation, and outcomes of specific service-learning programs" (Hardin, 2006, v). Studies were found from twenty-one disciplines, but AAHE has not published any work from an art or design perspective. The two volumes that are most similar to design are communication studies and architecture, but design is distinctly different from these disciplines. The nature of projects, the tools for production and the principles of design differ from those of communication studies and architecture.

Learn and Serve has published four volumes of *Recent Dissertations on Service and Service-learning Topics*, which shares a collection of thesis and dissertation abstracts on topics related to service-learning. After scanning these volumes, which included over 500 abstracts, there were no studies specifically about design, but there were dissertations from related disciplines, like communication and visual arts. For example, Britt (2009) built on Morton's work in her doctoral dissertation about service-learning in communications. Her research is described in the following

chapter. Reviewing these volumes also allowed the researcher to learn about various research designs and documented benefits of service-learning.

While searching for literature specifically about service-learning in design education, the following journal articles and book chapters were discovered. "Service Learning: Connecting Community and Design" by Agre-Kippenhan & Charman (2003) is a chapter is in Steven Heller's well-respected book, *Teaching Graphic Design*. The chapter, however, is simply a subject outline with no references. Following this work, in 2005, The National Art Education Association published *Spheres of Possibility: Linking Service-Learning and the Visual Arts*. Three of the eleven contributors represent graphic design, but all teaching staff shared the same feeling; They were "groping to discover the concepts of their own inquiries into service-learning" and "fumbling to understand how [their] insights might be rendered through the images and texts of [their] project experiences" (Jeffers, 2005, p. 11). Another study published in 2005, called *Making Value Visible: Excellence in Campus-Community Partnerships in the Arts, Humanities, and Design*, shares the results of six focus groups, but contrary to the title, the focus is more on the arts and culture, with no reference to graphic design (Koch, 2005). Another book chapter related to this topic is titled "Graphic Design for Social Change: Incorporating Service-Learning into Design Curricula" and includes a subject profile, an overview of projects, reflection on two models and some final thoughts (Prakash, 2010). An article published in *The International Journal of Design Education* discusses the academic growth of graduate students during a service-learning project, which involved students designing websites for local community organisations (Guo, 2016). The article focuses on the short-term benefits for students.

The discipline-specific literature exemplifies the problems raised by Billig and Waterman (2003). These written works are anecdotal descriptions of service-learning projects in which the educators reflect on their personal experience and share feedback from their students.

During Bloom's fourth category (analysing), the researcher started to see how the details from literature could be organised into parts. These parts are discussed in sections 2.2, 2.3 and 2.4.

2.2 Conceptualising service-learning

While conducting the literature review, some key concepts of service-learning emerged (Britt, 2009; Chaison, 2008; Eyler, Giles, Stenson & Gray, 2001; Cruz & Giles, 2000). The following sections discuss terminology related to SL, international views of SL and significant studies about SL.

2.2.1. Definitions and terms related to experiential education

Service-learning is a form of experiential education, or learning through reflection on doing (Dewey, 1938; Kolb, 2014; Beard, 2013). According to Kolb (2014), this type of learning involves the desire to grasp abstract conceptualisation (thinking) and concrete experience (feeling), and transform that experience through reflective observation (reflection) and active experimentation (doing). Since the focus is on an individual's learning journey, experiential learning can occur with or without a teacher being physically present. Wesch (2008) believes the best learning often

happens in the absence of a teacher, when learners feel free to pursue the questions

that are most meaningful and relevant to their lives.

There are many types of experiential education: work-integrated learning, internships,

field trips, study abroad, volunteerism and service-learning. A brief definition of each

term can be found in Table 2.1.

Table 2.1. Types of experiential learning

Work-integrated learning (WIL)	Students undertake a work-related project or placement at an off-campus site as part of their study. Depending on the work environment, community service may or may not be a component of WIL (McLennan & Keating, 2008).
Internship	An internship is a stand-alone experience to enhance vocational development (i.e. not a component of a subject). A student may or may not get paid, earn credit hours or get a professional license (Furco, 1996).
Field education	Field education provides students with co-curricular opportunities to provide a service that's related to academic studies, but the primary focus is on the student's benefit from the experience (Furco, 1996).
Study abroad	Study abroad is when a student travels overseas for a short term and learning takes place in a foreign culture. It may or may not be credit bearing, faculty-led, or with a group. Service-learning activities can be part of study abroad (Bringle, Hatcher & Jones, 2011).
Service-learning	Students engage in and reflect on structured learning activities that address community needs (Jacoby, 1996).
Community service	Students provide service to the community in the form of a structured activity or program to advance the cause or benefit the recipients. Sometimes it's voluntary; sometimes it's a requirement. Students may perform community service as a representative of a university or club (Furco, 1996).
Volunteerism	Students freely offer to provide service to benefit the recipient. The activity is not tied to curriculum and does not result in course credit (Furco, 1996).

While definitions in this table highlight some of the similarities and differences, a

spectrum of experiential learning developed by Furco (1996) provides a visual

comparison. As shown in Figure 2.1, 'recipient' (i.e. community partner) is placed

across from 'provider' (i.e. student), and 'service' is across from 'learning.' Furco situates service-learning in the middle of the spectrum to demonstrate that it is a balanced approach. The beneficiary is both a provider and a recipient. The focus is both on service and learning.

| Recipient | ← BENEFICIARY → | Provider |
| Service | ← FOCUS → | Learning |

	Service-learning	
Community Service		Field Education
Volunteerism		Internship
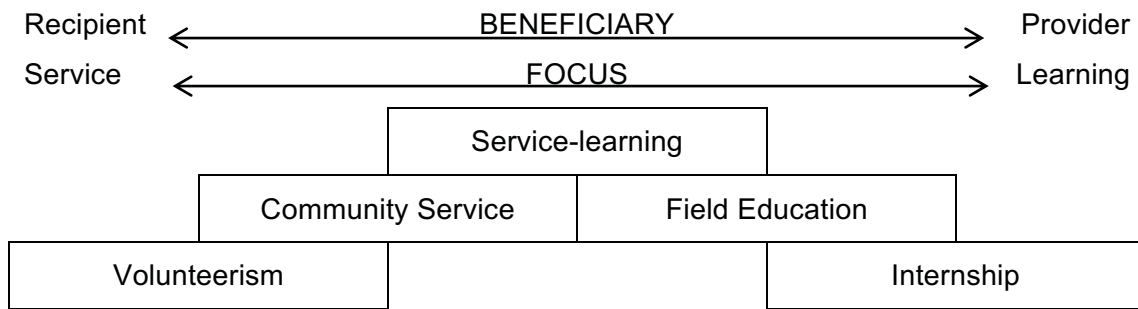
Figure 2.1. Service-learning: A balanced approach (from Furco, 1996)

Other scholars describe this balanced or integrative relationship between service and learning. Sigmon (1994) believes that the hyphen in the name 'service-learning' has significance; it symbolises the 'co-dependent' or reciprocal relationship between service and learning. The goals are of equal weight. They are not separate from one another. One is not dominant over the other. They are equally important. Britt (2009) explains how every individual involved in service-learning is both a teacher and a learner. Every person has something to offer and something to learn. Service-learning is often described as being "mutually beneficial" to both students and the community (Jacoby, 2009; Bringle & Hatcher, 1995; Sandy & Holland, 2006; Lewis, 2004)

Since the words 'community' and 'service' surfaced in several of these definitions, these terms are discussed next.

2.2.2. Defining community

The term 'community' and its usage in relevant literature needs to be contemplated to better understand what it means in relation to service-learning. In academic research, the meaning of community has been debated for decades. The lack of a shared definition, along with the difficulty to make generalisations about such a complex construct, has significantly stifled research (Cruz & Giles, 2000). In service-learning literature, community is used as an adjective to describe types of engagement, partners, service, groups, and a place where education is based. 'The community' is often regarded as an off-campus location (e.g. out in the community), which can be local, rural, regional, national, or international. In addition to a geographic place, the idea of online community engagement indicates that community can also be virtual (Helms, Rutti, Hervani, LaBonte & Sarkarat, 2015; Marriott, 2007).

Literature often refers to community in a homogenous sense, like it's a monolithic entity with a unified front, but even small, local communities have many confounding variables. In a journal article authored by a small group of experienced service-learning students, they regarded community as "complex, changing and multi-faceted" and completely different than the model they learned about in school (Link, McNally, Sayre, Schmidt, Swap, 2011). There is a disconnect between the idea of community and the reality of community.

Another observation about community in the literature is how scholars describe the relationship with it. Some say that students work *with* it, *for* it or learn *from* it. For example, in community-based learning, students learn *from* the community (Melaville, Berg & Blank, 2006). Since service-learning is anchored in the community it does move students to consider others and their needs, but it is not

community-based learning. In service-learning literature, students are described as working *with* individuals or organisations in the community, not *for* them (Ward & Wolf-Wendel, 2000). For this reason, the phrase 'community partner' has widely been adopted to mean the individuals or organisations with whom a university forms a partnership during service-learning (Jacoby, 2003; Cruz & Giles, 2000; Morton, 1995). Power, Bennett and Bartleet (2015) describe the collaborative and reciprocal partnership between these two groups as being "co-generators of knowledge" through a process of "two-way learning" (p. 49). This aligns with principles of co-design, in which designers follow a "design-with mindset" that involves end-users in the creative process (Sanders & Stappers, 2014).

2.2.3. Defining service

The term 'service' has several different meanings. Explaining the difference between two relevant definitions is necessary to clarify its use in this study. Service can be used to mean either "the action of helping or doing work for someone" or "a system supplying a public need, such as transport, communications, or utilities" (Stevenson & Lindberg, 2012). The first definition is how the word is used in service-learning literature, while the latter relates to the discipline of service design (Evenson & Dubberly, 2010). Service design is part of this research (e.g. three of the twelve sites), but this study is primarily about service-learning in design education.

In higher education, service can be something that's voluntary or required. Some tertiary institutions require that students perform a certain number of community service hours in order to graduate. There are also negative connotations around

community service. For example, minors can be sentenced 'community service hours' as a form of punishment; it can be court ordered.

In the context of service-learning, scholars regard service as a concept that encompasses a continuum from charity to social change (Morton, 1995; Lewis, 2004). Points along this continuum have their own logic, strengths, limitations and vision of a transformed world. Figure 2.2 visualises how one's level of concern with a root cause and level of investment in relationships determines which service paradigm they have. Morton (1995) suggests that integrity in service-learning "comes not by moving from charity to social change, but from working with increasing depth in a particular paradigm" with regards to one's investment in the relationship and their concern with the root cause (p. 19).
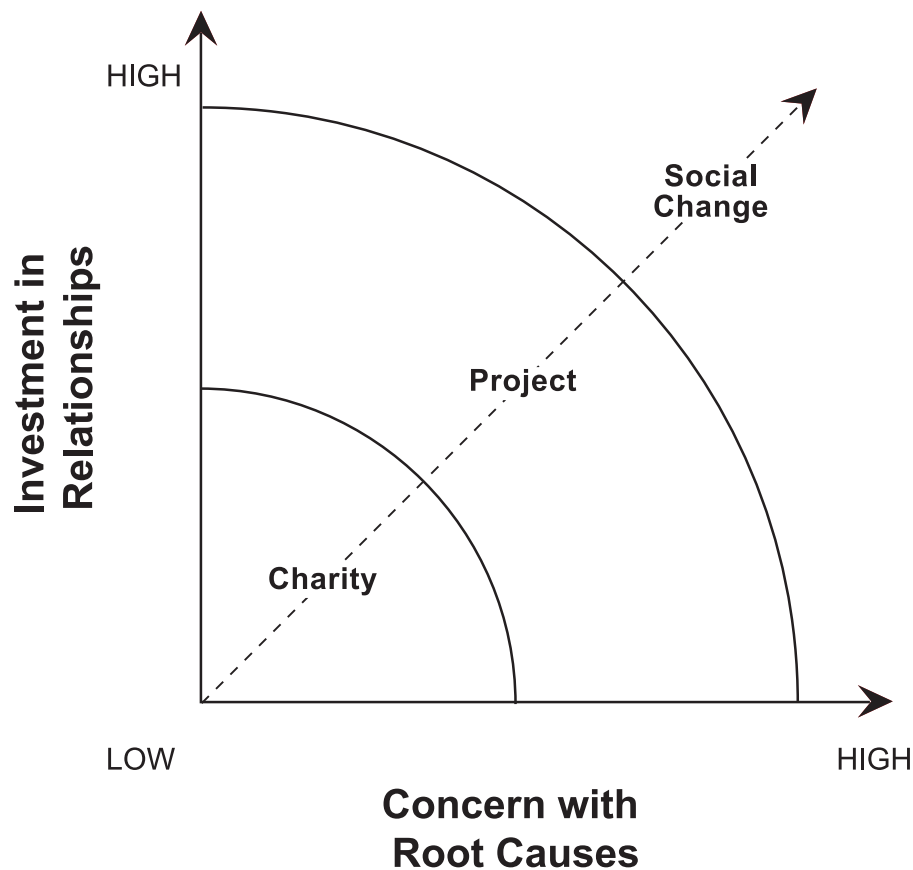
Figure 2.2. Paradigms of service (based on Morton, 1995)

Service is also a defining element of design. In the creative economy, graphic design and advertising have been regarded as 'creative services' for decades (Foote, 2009; Gold, 1995). Creativity for hire. More recently, Web site design has been deemed an 'IT service'. Like any professional service (e.g. insurance, engineering, financial planning), design can be bought and sold to satisfy the needs of a company that does not have expertise in that particular area.

2.2.4. International views of service-learning

While reviewing literature about experiential learning, the researcher noticed differences in terminology between countries. This section, therefore, compares the language of service-learning in the United States, Australia and the United Kingdom.

In the United States, a popular view of service-learning is based on Barbara Jacoby's definition. Jacoby (1996) describes service-learning as "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (p. 5). Reflection and reciprocity are key concepts of service-learning (Jacoby, 1996; Butin, 2012). Another commonly cited definition comes to us from Bringle and Hatcher (1995), who argue that SL is:

> A course-based, credit-bearing, educational experience in which students (a) participate in an organised service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility. (p. 112)

This is a more academic view of service-learning, but touches on several of the same points mentioned above. A model that visualises these definitions can be seen in Figure 2.3. Both of these definitions are quite comprehensive, but there is widespread recognition that multiple views of SL exist.
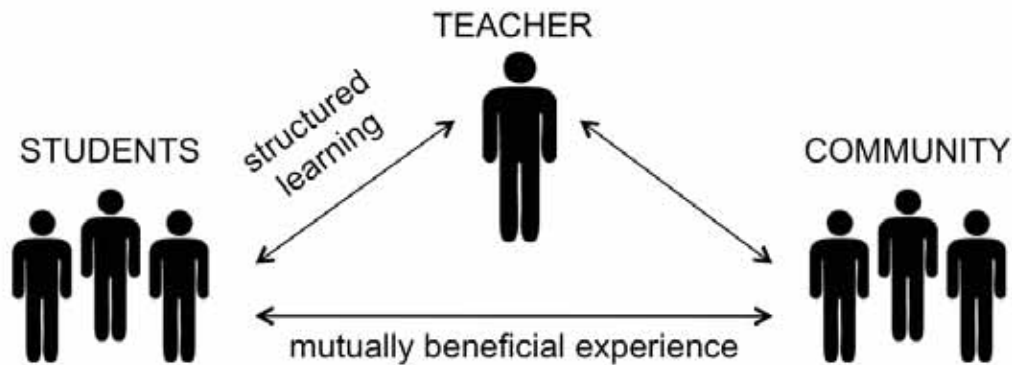
Figure 2.3. A visual model of service-learning

In the United Kingdom, service-learning activities are often discussed under the term 'public engagement'. The National Coordinating Centre for Public Engagement (2012) defines public engagement as:

> The many ways in which higher education institutions and their staff and students can connect and share their work with the public. Done well, it generates mutual benefit, with all parties learning from each other through sharing knowledge, expertise and skills. In the process, it can build trust, understanding and collaboration, and increase the sector's relevance to, and impact on, civil society. (p. 3)

Similarly, in Australia, service-learning activities are either regarded as a part of 'community engagement' or are compared to 'work-integrated learning'. Barbara Holland, a SL researcher and practitioner with experience in both the United States and Australia, made interesting comparisons between service-learning and work-integrated learning (WIL) during a keynote speech (Stephenson, 2011). She claimed

that the two have similar values, in that they are more integral ways of connecting

theory and practice than some traditional approaches to teaching. They both also have

the benefit of student activity happening outside of the classroom environment, which

is helpful with regards to the Australian Employability Skills Framework, which

includes some skills that are rather difficult to develop in a classroom setting. While

there are similarities between SL and WIL, the main purpose of each is quite

different. Work-integrated learning focuses on developing professional skills; it's

transactional (McLennan & Keating, 2008). Compare that to service-learning, which

focuses more on developing affective skills, like ethics and empathy; it's

fundamentally more about transformation than transaction.

There is not a universal, shared definition of service-learning. One's view of this

concept depends on their experience and background, as well as a range of cultural

and social factors.

2.2.5. The impact of service-learning

Regarding the impact of service-learning, more literature exists about the benefits for

students (Eyler, Giles, Stenson & Gray, 2001; Celio, Durlak & Dymnicki, 2011) than

for community partners (Cruz & Giles, 2000; Rinaldo, Davis & Borunda, 2015;

Srinivas, Meenan, Drogin & DePrince, 2016). Significant studies are critiqued below.

The discussion is first about effects on students, then on community partners.

During a project funded by the Corporation for National Service, a research team

conducted an extensive literature review regarding the effects of service-learning on

college students, faculty, institutions and communities (Eyler, Giles, Stenson & Gray,

2001). The annotated bibliography included over 130 journal articles and dissertations written between 1993 and 2000. The impact of service-learning on students was grouped into the following five categories: personal outcomes, social outcomes, learning outcomes, career development and relationship with institution.

Personal outcomes:

- Service-learning has a positive effect on student personal development, such as sense of personal efficacy, personal identity, spiritual growth, and moral development.
- Service-learning has a positive effect on interpersonal development and the ability to work well with others, leadership and communication skills.

Social outcomes:

- Service-learning has a positive effect on reducing stereotypes and facilitating cultural and racial understanding.
- Service-learning may subvert as well as support course goals of reducing stereotyped thinking and facilitating cultural and racial understanding.
- Service-learning has a positive effect on commitment to service.
- Volunteer service while in college is associated with involvement in community service after graduation.

Learning outcomes:

- Students or faculty report that service-learning has a positive impact on students' academic learning.

- Students or faculty report that service-learning improves students' ability to apply what they have learned in "the real world".

- The impact of service-learning on student academic learning, as measured by course grades or GPA, is mixed.

- Service-learning participation has an impact on such academic outcomes as demonstrated complexity of understanding, problem analysis, critical thinking, and cognitive development.

- The impact of service-learning on student cognitive moral development is mixed.

Career development:

- Service-learning contributes to career development.

Relationship with institution:

- Students engaged in service-learning report stronger faculty relationships than those who are not involved in service-learning.

- Service-learning improves student satisfaction with college.

- Students engaged in service-learning are more likely to graduate.

A more recent meta-analysis of the impact of service-learning on students confirms these findings and adds new evidence. The article was published in the *Journal of Experiential Education* and shares results of an analysis of 62 studies that involved 11,837 students (Celio, Durlak & Dymnicki, 2011). Their methodology was very stringent, including a coding procedure and an index of effect size and statistical procedures. Students participating in service-learning demonstrated "significant gains" in five areas: attitudes toward self, attitudes toward school and learning, civic

engagement, social skills and academic performance. The categorised benefits between the two studies were very similar with one exception. The 2001 project included benefits related to career development, while the 2011 study included benefits related to civic engagement. This was due in part to the expanded search terms used in 2011 to locate relevant studies, which encompassed phrases like "public service," "civic engagement" and "civic involvement," in addition to "service-learning."

In addition to benefits for students, a handful of studies have looked at the benefits and challenges for community partners. In *Where's the Community in Service-Learning Research?* Cruz and Giles (2000) share key findings and claims about the value of service-learning to communities. They grouped the literature into three categories: 1) service-learning contributes to community development, 2) service-learning bridges town-gown gaps, and 3) service-learning offers benefits to community. The benefits were divided in the following way:

> *Key Findings:*
>
> - Access to university resources
>
> - Budgetary savings
>
> - Use of the free labor of student volunteers with varying skills
>   and expertise
>
> - Appreciation of the energy and enthusiasm of student volunteers
>
> - Better service for community partners
>
> - Furthered goals of the organisation
>
> - Contributes to the visibility of the community organisation
>
> - Played a role in the preparation of future professionals

Key Claims:

- Community members gain access to research and knowledge within the university

- University provides community with various resources

- Community forms potential working relationships with students

- "Neighborly communities" are developed

Most of the empirical literature reviewed is based on program evaluation and performance assessment. Cruz and Giles encourage researchers to include the community's perspective in more service-learning research, but suggest that instead of focusing mainly on community outcomes, researchers should focus more on how to form sustainable university-community partnerships. This is based on the assumption that "the partnership is the infrastructure that facilitates the service and learning" (Cruz & Giles, 2000, p. 31). It indicates that the value of service to the community is dependent on the quality and value of long-term relationships.

Following on this work, Rinaldo, Davis and Borunda (2015) conducted a qualitative study about the perceived value delivered to community partners during SL projects. Their sample group of partners found value in areas that directly benefited the organization—seeing students as extra volunteers to do work, gaining access to expertise, helping them achieve their mission. They appreciated students and enjoyed being involved with their learning and development. Of the challenges they encountered, the most frequent issue revolved around students procrastinating and having last-minute requests.

Srinivas, Meenan, Drogin and DePrince (2016) created the Community Impact Scale (CIS) to measure the benefits and costs of community-university partnerships across a range of outcomes. They developed the assessment tool in collaboration with a long-term community partner and then tested it with 31 partners. The scale is designed to gather feedback across eight domains: overall experience, social capital, skills and competencies, motivations and commitments, personal growth, knowledge, organizational operations, and organizational resources.

2.3 Conceptualising design

The following sections discuss definitions of design and critique relevant literature about design education.

At a design forum in 1988, Arnold S. Wasserman, a vice president of design at Unisys Corporation, said "the profession suffers in a quantitative world from its qualitative 'arts & crafts' orientation." (Meikle, p. 57). At the time, design culture was lacking the ability to judge or evaluate performance and struggling to measure the success of design. Contrast that with the current state of design. Now, design is spreading into new areas, like business management, healthcare and community planning, that have historically been dominated by logic and analytical thinking (Brown, 2008; Martin, 2009). In these spaces, design is valued for its ability to bring creativity and innovation to organisations (Jones, 2014). New problem spaces are causing the processes and methods of design to be in a state of flux (VanPatter & Pastor, 2011).

As this expansion of design continues, the role of a designer is changing. "Historically, the task of the designer was simpler than it is today, and the designer's

responsibility was easier to define… Now faced with the growing complexity of the product milieu, designers have to think more profoundly about the future and their role in making it" (Margolin, 2007, p. 14). In her doctoral dissertation, Lauren Tan (2012) identified seven new roles that designers are playing when they design for social good—co-creator, researcher, facilitator, capability builder, social entrepreneur, provocateur, and strategist. As the scope of design widens, designers have to consider the consequences of their actions and decisions. Since designers are the professionals creating the products and services that people use, they could be held partially accountable and should therefore be generating a strong dialogue about their social implications.

2.3.1. Defining design

As indicated above, design is a pluralistic discipline and field, thus a shared definition of design does not exist. The *New Oxford American Dictionary* defines design as "the art or action of conceiving of and producing a plan or drawing." (Stevenson & Lindberg, 2012) This aligns with how Richard Buchanan (2001a) describes it: "Design is the human power of conceiving, planning, and making products that serve human beings in the accomplishment of any individual or collective purpose" (p. 9). The 'product' referenced in his description could be anything from a brochure to a complex system. Since design has no specialised subject matter, many academic disciplines involve design methodologies (Buchanan, 1992). For example, more than 40 programs are offered at SCAD, an art and design school based in Savannah, Georgia. Students can study graphic design, motion media design, interactive design,

industrial design, furniture design, fashion design, service design and urban design, to name a few.

To further complicate this, many design-related disciplines have roots in social and behavioural sciences. For example, Redish (2000) has observed how information design draws on many research disciplines and many fields of practice, including anthropology and ethnography, architecture, graphic design, human factors and cognitive psychology, instructional design and instructional technology, linguistics, organisational psychology, rhetoric, typography, and usability. Knowledge and methods from a wide array of disciplines feed into design. According to a recent study, this could actually benefit designers. The Visionary Design Council (2008) conducted research to better understand the emerging role of designers. A key finding from their study is that "Designers must be able to draw on experience and knowledge from a broad range of disciplines, including the social sciences and humanities, in order to solve problems in a global, competitive market of products and ideas." (Visionary Design Council, 2008, p. 8) Knowledge in these disciplines will not only help designers better understand the subject matter of a new project, but it will also help them make more informed decisions. Similarly, in an essay titled *Why Design Education Must Change*, Don Norman (2010) argued that design education needs to help design students gain more experience with multidisciplinary teamwork because "today's issues are far more complex and challenging" and require skill in areas like applied social and behavioral sciences. David Holston (2011), author of *The Strategic Designer*, claims that designers in the conceptual economy must "not only be experts in form, as they traditionally have been, but they must be equally skilled in solving more complex problems by calling on a broader range of skills in the social sciences, technology and the organisation of teams" (p. 2).

Designers are not expected to have expert knowledge about a client's business. Instead, their value lies in the way they think and approach problems. Craig Vogel (2009), known for his research in product design, believes that designers are looked to for insights that "effectively respond to constantly changing social, economic, and technical forces (also known as SET factors)" (p. 4). According to Vogel, the interaction of these three forces results in the emergence of new and preferred products, services and experiences for customers and consumers. Peter Merholz (2009) of Adaptive Path notes that, "In this savagely complex world, we need to bring as broad a diversity of viewpoints and perspectives to bear on whatever challenges we have in front of us." Complexity cannot be managed by a single person seeing things from one point of view. Instead, a problem must be approached from diverse perspectives so to have the most holistic view of a situation.

The ability of designers to think visually is also valuable. In *Visual Language: Global Communication for the 21st Century*, Bob Horn (1998) explains why and how visual language is a necessary tool for handling the complexity and speed of modern business communication. Visual language is defined as "the integration of words, images, and shapes into a single communication unit" (Horn, 1999, p. 8). Horn believes that design students need to learn how to use visual language to meet the challenges ahead. If they can master that, then they will be better prepared to function in the increasingly global society. As Edward Tufte said, "good design is clear thinking made visible" (Bisbort, 1999). The act of visualising thoughts and ideas is more than a step in the process of making something. It's an integral part of how designers think and demonstrates the visual language that designers speak.

Design and fine art differ in this area. Most artists express and communicate their

feelings, opinions or understanding of the world through their work, which may or may not be created for others to interpret and appreciate. Design does not exclude self-expression, but the act of designing, for a designer, is more about creating 'products' for people to use. It's a synthetic-real profession (Owen, 2007).

Owen (2007) has created a conceptual map to visualise the various content and process factors that are similar and different among professional fields (Figure 2.4). His x-axis looks at process factors, or the way a profession works. The left half is where professions that emphasise an analytic approach, like discovery, are positioned. The right half is where fields that emphasise synthetic thinking, like invention, can be plotted. The y-axis is for content factors, or the realm of activity. Fields in the top half utilise symbolic factors, like language, and fields in the bottom half focus on creating artifacts and systems to manage the 'real' world. The domain of art rests mostly in the symbolic-synthetic quadrant, whereas the domain of design falls mostly in the synthetic-real quadrant. While design does involve discovery and deals with communication, which is a symbolic activity, it is concerned most with making 'products' or solving problems that exist in the real world.
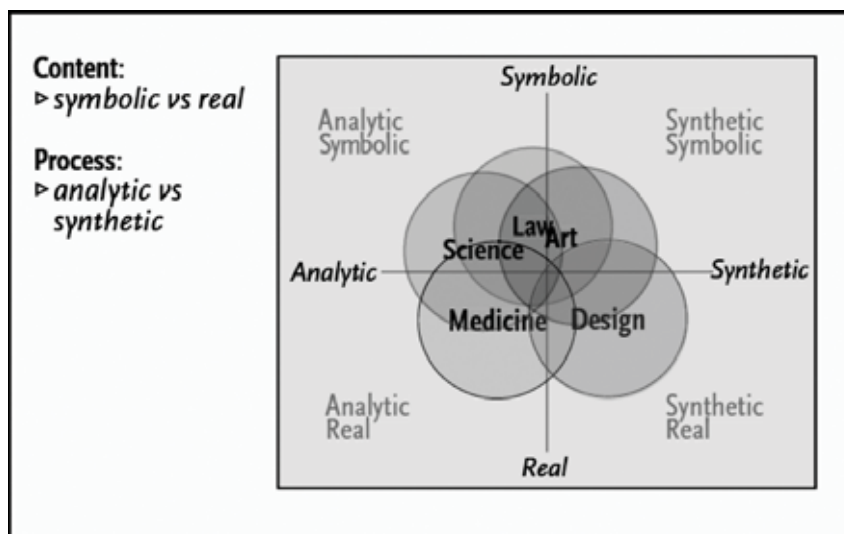
Figure 2.4. Conceptual map of professional fields (Owen, 2007)

2.3.2. Research about design education

The previous section highlights some of the complexities in the design profession. Since the role of the designer is changing, how is design education adapting? To better understand the skillset that a designer should have in the twenty-first century, significant studies in design education were carefully reviewed (Design Skills Advisory Panel, 2007; Visionary Design Council, 2008; Parker, 2009).

In 2007, the Design Skills Advisory Panel published the UK Design Industry Skills Development Plan. The authors of this report recognise the quality of the design education system in the UK and the potential value that design can have in business and government, but they also identify a skills gap. In order to take advantage of the potential for future development of the design industry, the panel performed an analysis of current skills, conducted an appraisal of the skills gap and developed a plan for addressing them. In the UK, companies are looking to designers to deliver innovation, establish brands and improve systems. They are being used more strategically in an effort to stay ahead of global competition and in public services to create services that are more flexible and efficient. Strategic design demands "a more holistic approach, a new level of systems thinking and the orchestration of a range of different design inputs" (Design Skills Advisory Panel, 2007, p.18). Davis (2005) agrees, claiming that, while graphic designers have historically used their skills to create components and products, design problems are expanding to include projects at the systems-level and projects that affect communities. In the public sector, there exists great opportunity for designers to help the government communicate better with people, to be involved in the generation of creative, new solutions to intractable policy problems, and to play a part in improving the delivery of public services.

Designers in these domains need a combination of professional skills and core design capabilities in specialist disciplines (i.e. T-shaped designers). This was identified as a main gap in skills development that could be addressed by creating more designers with very deep expertise in one discipline and some knowledge and skills in a wide range of other domains working together in multi-disciplinary teams. Students therefore need "complementary skills such as business management and communication" and knowledge that extends into areas like "global markets and supply chains" (Design Skills Advisory Panel, 2007, p.6) This requires cross-disciplinary collaboration in universities, involving subject areas like business and technology, and strong connections with professional practice, including contextualised learning.

In the United States, Adobe and AIGA partnered to investigate emerging trends in the field of design in an effort to "help prepare designers for the skills and roles that will be expected of them" in the near future (Visionary Design Council, 2008). After conducting focus groups, interviews, workshops and surveys, gathering feedback from nearly 2,500 people, the council summarised their findings and attempted to define the designer of 2015. They identified thirteen competencies that a successful designer should display. These include the ability to:

1. Develop a visual response to a communication problem,

2. Identify and solve real problems,

3. Understand broadly the issues related to the context,

4. Respond to the audience's needs,

5. Utilise tools and technology appropriately,

6. Be flexible, nimble and dynamic in practice,

7. Communicate productively in interdisciplinary teams,

8. Understand how systems behave,

9. Construct verbal arguments for solutions that address diverse audiences, lifespan issues, and business operations,

10. Understand cultural preservation in a global environment,

11. Collaborate productively in large teams,

12. Practice ethically,

13. Understand cause-effect relationships and develop evaluation criteria that account for audience and context.

Following the work of the Visionary Design Council in 2008, another design study sponsored by the Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA) explored a similar topic, the results of which validate many of the above claims. In a paper titled *Social Animals: tomorrow's designers in today's world*, Parker (2009) argues that "students need to be equipped with a broader range of research and communication skills, alongside their more traditional design skills, and encouraged to think more laterally about the sites and spaces where these could be used." Six challenges for design education emerged from this study.

1. Design courses should do more to encourage students to immerse themselves in the moments of interaction between people and translate this research into actionable findings.

2. When working on co-design projects, students need to recognise the impact that participation will have on people's lives. An ethical code needs to be in place to prevent designers from treating participants insensitively or as objects.

3. Design curriculum needs to concentrate on how to prototype new services.

4. Students need to be taught how to appreciate the bigger picture – taking into account the stakeholders and the wider social, political and cultural forces that shape a project. How can these forces become an integral part of a solution?

5. Design education must build students' skills in articulating proposed solutions, both visually and verbally. This will enable students to communicate the benefits to user groups and thus increase the likelihood of people investing.

6. Students must learn how to become 'problem finders' as well as problem solvers – helping organisations define the nature of a problem as well as how to respond to it. Designers must know how to work 'upstream' and be confident in the distinctive value they can bring to strategic design.

Regarding the strengths and weaknesses of these studies, they clearly identified areas in which future designers need to develop competence. More detail is needed in discussions about how colleges and universities should proceed. The Design Skills Advisory Panel (2007) recommended developing a network of visiting design professors, promoting multidisciplinary programs, and creating an online information service to strengthen partnerships between education and industry. The Visionary Design Council published their findings to "provoke responses from the academic community" in developing curricula (2008). Parker (2009) suggested a redesign of design education around the emerging social agenda, which involved a marking system that recognises students' ability to create positive user experiences and a broader view of placements and live projects to include local councils, government agencies and charities. There exists an opportunity for design education to develop a more detailed plan forward.

While the three studies discussed above are specific to design education, other research presents similar challenges for higher education in general. In 2009, the Partnership for 21st Century Skills published a framework for learning, which describes the skills, knowledge and expertise that students need to master to succeed in work and life. Student outcomes are grouped into three skillsets: 1) learning and innovation skills, 2) information, media and technology skills, and 3) life and career skills. The first area calls for education to focus on "creativity, critical thinking, communication and collaboration" so to prepare students for "more and more complex life and work environments" (Partnership for 21st Century Skills, 2009, p. 3). The second area prioritises the importance of students' ability to evaluate the abundance of information to which they have access, to analyse and create media products, and to apply technology effectively. The third area acknowledges the fact that thinking skills and content knowledge alone will not be enough to adequately navigate the globally competitive work environments. Since higher education can be a rather controlled instructional environment, teaching students how to adapt to change and be flexible may prove to be challenging (Butin 2010; Wesch 2008). If students are rewarded for memorising facts, how can they learn to be leaders in their field and "act responsibly with the interests of the larger community in mind?" (Partnership for 21st Century Skills, 2009, p. 7) How can students learn social and cross-cultural skills in universities that struggle to break out of their own silos?

2.3.3. Synthesised themes about design education

After analysing research in design education (Design Skills Advisory Panel, 2007; Visionary Design Council, 2008; Parker, 2009), several common themes emerged. The themes are outlined in the following pages and are visualised in Figure 2.5.
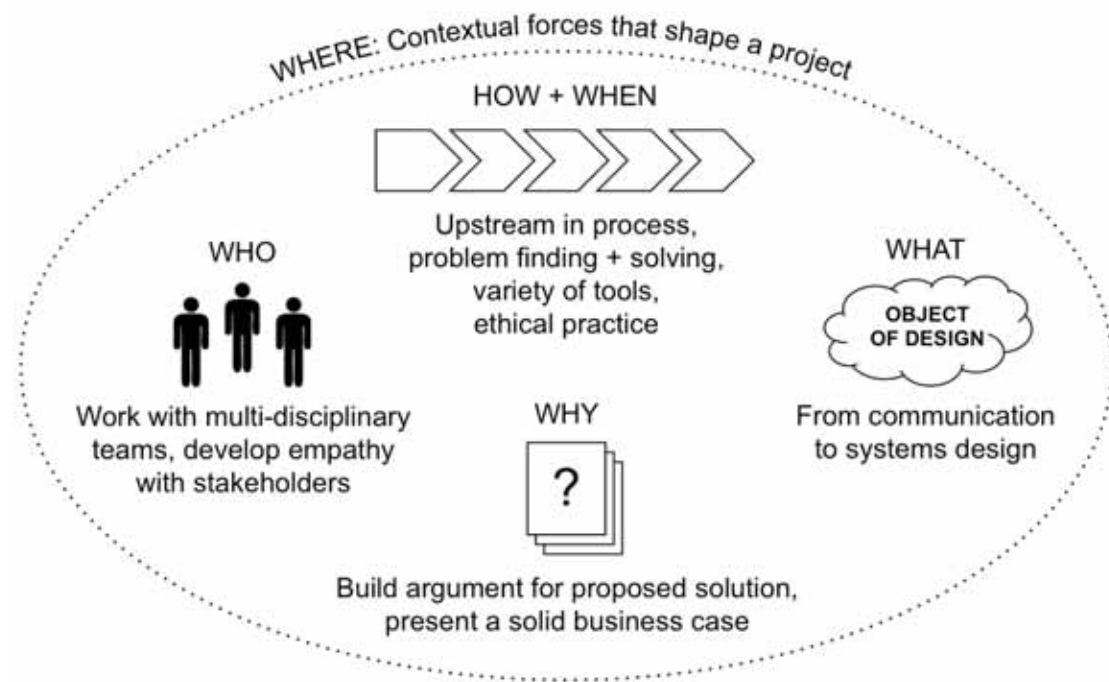
Figure 2.5. Focus areas for design education

Who

- Designers should be apt to working in multidisciplinary teams, which involves collaborating productively and communicating effectively with others.

- Designers should be able to develop empathy with all stakeholders involved in a project, especially users and clients.

What

- Designers should be able to help clients with "communication problems", mainly how to visually and meaningfully communicate messages.

- Designers should be able to engage in systems-level thinking—the ability to step back from the details, see the big picture and make observations about how systems behave.

When

- Designers should be involved upstream (i.e. early in the creative process) to not only participate in a project as a problem solver but also as a problem finder.

Context

- Designers should be able to understand the contextual forces that shape a project so that proposed solutions are appropriate for users, feasible for the business and possible from a technological perspective.

Why

- Designers should be able to build arguments for proposed solutions. The ability to present a solid business case to a client will increase the perceived value of design.

How

- Designers should be able to use a variety of tools and technology to create a range of outputs and inputs that enhance the creative process.

- Designers should practice ethically. This is especially important when people outside of the immediate project team are involved in the process (e.g. co-design, user research).

2.4 Contextual factors affecting service-learning in design education

Major movements in graphic design's history have been influenced by a range of social, political, and cultural factors, including technological advancements (Meggs & Purvis, 2011). These same forces are examined from the perspective of service-learning in design education. Implications for community partners and design students are considered. The discussion that follows is not an exhaustive examination of every factor. The aim is to highlight some key areas, which are included in Table 2.2.

Table 2.2. Contextual factors affecting SLIDE

Factors	Design	Community
Social	Social impact design, design for good	Social problems
Technical	Web, mobile, Adobe	Lack of expertise, cost and time to maintain
Environmental	Print versus digital	Sustainability, anti-consumption
Cultural	Cross-cultural design, study abroad	Diverse population of service users
Economic	Production costs, fees	Fundraising, grants

2.4.1. Social factors

The researcher reviewed online collections of socially-oriented design projects and classification systems for nonprofit organisations as a way to understand the different types of social factors that could affect SLIDE.

HCD Connect (2013), an initiative by IDEO and the Bill and Melinda Gates Foundation, identified nine "focus areas" for the "stories and projects" in their online database. Their focus areas include agriculture, education, energy, environment, financial services, gender equity, health, community development and water. This list is quite similar to the seven "themes" that Design Ignites Change (2013), founded by the Adobe Foundation and Worldstudio, have used to organise their online collection of project case studies. The themes by Design Ignites Change are humanity, health, education, environment, community, politics and business. Both HCD Connect and Design Ignites Change look at these projects from a design perspective, with examples from both professional practice and academia.

A slightly different view is how government classifies nonprofit organisations. In the United States, the National Taxonomy of Exempt Entities' classification system is divided into the following broad categories:

- Arts, culture and humanities (e.g. art museums and historical societies)
- Education and research (e.g. preschools, adult learning programs, libraries)
- Environment and animals (e.g. humane societies and recycling programs)
- Health (e.g. hospitals, substance abuse programs, disease research)
- Human services (e.g. youth development programs, disaster relief, job training)

- International (e.g. foreign policy, global human rights)

- Public and societal benefit (e.g. neighborhood development, voter registration)

- Mutual and membership benefit (e.g. fraternal societies, retirement funds)

- Religion (e.g. houses of worship, faith-based media)

- Other

When comparing these two perspectives (design projects and nonprofit categories), there are similarities and differences. Shared categories include health, education and environment. The design categories of agriculture, energy and water are sub-categories of environment. The design category of gender equity is a sub-category of international. Community development is a sub-category of public benefit. Financial service is a sub-category of mutual and membership benefit. Where the two perspectives differ the most is around religion, arts/culture and human services. The design perspective excludes religion. It is understandable that design projects at public universities rarely deal with religious organisations, but the lack of examples that deal with arts/culture and human services is surprising.

Social issues such as these are motivating many of tomorrow's designers to make a difference. A new generation of 'social designers' are looking for ways to apply their skills to social needs. "A small but significant minority of service designers are reflecting on their work, and beginning to articulate a new agenda for design" that's more concerned with people and the planet than products and services (Parker, 2009, p. 5) They are asking questions such as, how can we create services that meet goals in a sustainable, humane way? According to Parker, these socially-driven students need to learn techniques to operate effectively in a social context and how to think

critically about the purposes, significance and consequences of the 'products' they make. 'Design for Good' is a movement started by AIGA (n.d.) to "ignite, accelerate and amplify design-driven social change." It is described as a platform to "build and sustain the implementation of design thinking for social change" (AIGA, n.d.). The online resource includes over 50 examples of projects that had a positive social impact on communities, as well as networking tools, inspirational stories, chapter events, training and advocacy. It is further evidence of the growing interest in social design.

Another similar branch of design is known as inclusive design or universal design, which is a response to design exclusion and aims to create designs that "can benefit the majority by including those who are design excluded." (Lee & Cassim, 2009, p.1) In discussions about inclusive design, the people regarded as being excluded by design are usually those that society views as having specific needs or special abilities. For example, in the United Kingdom many initiatives have demonstrated that "working with people who are excluded by design such as older and disabled people is an effective way of developing inclusively designed products, services, environments and communications for other groups in the population." (Lee & Cassim, 2009, p.1) In Australia, the government shared a vision for a socially inclusive society (Commonwealth of Australia, 2010). This vision aims to help people across the nation who do not have the resources, opportunities or capabilities to receive an education, get a job, engage in their local community or have a voice in government, because these barriers can lead to a number of social problems, such as unemployment, poverty, homelessness, racism, and mental illness.

The technical forces in design revolve mostly around software applications and communication technology, while technical forces affecting the community are mostly about access, expertise and costs.

Since the mid-eighties, Adobe has been developing software applications for use by graphic designers. Adobe applications are regarded as industry standard. Every version release, which occurs almost annually, creates the need for teaching staff, students and professionals to update their skills. While it can be exciting to see what improvements were made, it takes time to learn about new features, tools and functions and it costs money to upgrade. Since many nonprofit organisations, community groups and young professionals are financially stressed and time poor, this poses an ongoing challenge (Durham, 2010).

A variety of programming languages and the growing popularity of mobile devices has further complicated the technical landscape for design. "Web designers are increasingly contending with many roles and tasks. What used to be just HTML, CSS and designing static brochure sites for the desktop has extended to designing web-enabled solutions for mobile devices, web apps, rich Internet application (RIA) interfaces, content management systems (CMS) and much more." (Gube, 2010) The CMS Wordpress, for example, allows a person with little to no knowledge of programming or markup languages to quickly and easily create and maintain a Web site for free. This is good for community groups and nonprofit organisations that previously could not afford to hire a trained designer or developer, but there are consequences. Web design is being diluted by content that is not strategically written and visuals that are not professionally created. This presents an opportunity for design

students to improve the quality of Web sites for nonprofits. For example, students from the University of South Australia have been designing websites for community groups since 2001 (Marriott, 2007). The project is called Sustainable Online Community Engagement and is a joint venture with the South Australian government through the Office for Volunteers. After students develop the initial Web site, they provide instructions for editing content and 'help sessions' for site maintenance. More than 250 organisations have participated.

Another technical factor affecting SLIDE is the shift from print to digital in the creative industry. In branding, for example, business cards are being replaced with social networking profiles. Direct mail campaigns are being replaced with email blasts. Printed brochures are being replaced with Web sites. The publishing industry (i.e. books and magazines) is going digital as well, with digital editions in a variety of forms replacing printed editions. The professional printing industry has gone through major restructuring, including closures and mergers. Nonprofit organisations have benefitted from this shift since digital products tend to be cheaper to produce. Budgets that were once dedicated to traditional print advertising, which can be quite expensive, are now being dedicated to digital advertising (Qualman, 2009). However, the time and manpower required to maintain digital content poses a challenge for many nonprofits.

This shift is also changing how businesses communicate with target audiences, as more communication is mediated with technology. For example, social media, like Facebook, Twitter and YouTube, has presented new challenges for advertising professionals (Qualman, 2009). The shift from Web 1.0 to Web 2.0, including an increase in user-generated content and user-centered design, has led to a massive

amount of online content and excessive customisation. Companies are experimenting with social media in an effort to, not only be where their customers are, but to also cut costs. After scanning job boards on AIGA, Creative Hotlist and Coroflot, many advertisements regard experience with "social media" as a desirable skill for a designer. Since most young people are familiar with social media, albeit for personal use, design studios often look to recent graduates to fill these roles. How are universities teaching students to use social media in a professional way? What does this mean for nonprofit organisations in the community? Is it creating more competition for volunteers? Is social media making it harder or easier to reach volunteers? Are nonprofits using social media in a strategic way? Who is maintaining their social media? According to Fleischmann (2015), "more research is needed in how design education can take advantage of social media's potential to reconstruct a present-day design studio" (p. 133).

Technology is also affecting teaching and learning at traditional universities with the rise of online learning. Most online subjects are text-based, however, some universities are teaching hands-on skills in an online environment. Savannah College of Art and Design, with campuses in Savannah, Atlanta, Lacoste and Hong Kong, now offers degrees that can be obtained solely via eLearning. James Cook University has started rolling out a fully-online media design degree (Fleischmann, 2015). How does this shift to online instruction affect community engagement? Is it possible for an online design subject to have a service-learning component? According to Helms, Rutti, Hervani, LaBonte and Sarkarat (2015), strategies for implementing and evaluating online service-learning projects are limited.

<u>2.4.3. Environmental factors</u>

Recently, an anti-consumption movement swept through design, raising questions like, "Does design have to be about making more stuff?" and "Can we design to reduce consumption?" Project M South is a good example of what can happen when young people confront environmental issues. In their own words, Project M South (2010) is "an assembly of young designers on a mission to use their creativity for the greater good. Rogue by nature, Project M teaches designers to 'think wrong' about the things that matter most in our world and then act." Each summer a team of young designers, writers, photographers and advisors assemble to tackle a different problem/project. The Project M South team went to Greensboro, Alabama in 2010 to witness firsthand the devastation caused by the BP oil spill. After visiting the coast, the team designed a range of material that highlights some of the issues and implications surrounding this catastrophe. In addition to the designed components, Project M encourages people to take action by sending a message to President Obama, donating to charities or reducing oil consumption.

Are schools teaching sustainability principles alongside design principles? Presently, there are only a "small number of undergraduate and postgraduate design courses with sustainable design elements" (Design Skills Advisory Panel, 2007, p. 21) There are likely two main reasons for this: 1) designers do not yet recognise the role that they could play in tackling the problem, and 2) teaching material regarding sustainability principles is under-developed in design education. "On pressing issues like sustainability, design has the potential to make a profound contribution, supporting businesses to create environmentally sound and desirable alternatives to existing services and products and enabling changes in patterns of materials use,

production, consumption, product disassembly and recycling" (Design Skills Advisory Panel, 2007, p. 17) How can we best raise awareness of this? Do design students care about these issues? According to a recent study, many designers are looking for meaningful ways to apply their skills beyond a "material culture" focused on increased consumption, or the "business of making things" (Parker, 2009, p. 4).

While it is known that the design process can integrate environmental sustainability into the creation of high quality, desirable products and services (Design Skills Advisory Panel, 2007, p. 13), is that enough to shift customers' patterns of consumption?

2.4.4. Cultural factors

Cross-cultural design speaks to the ability of designers or designed products to traverse cultural boundaries, which could be national, ethnic, geographic or socioeconomic divisions in culture (Erlhoff, 2007). An example of cross-cultural design is the graphics program created for the 2008 Beijing Olympic Games. The design director, Wang, fused modern Western design with traditional Chinese aesthetic and cultural influences (Meggs & Purvis, 2011). A service-learning example, Moitié-Moitié, comes from the School of Visual Arts. The project description is below:

> Moitié-Moitié is a series of gastronomic events that bring people from different cultures together to share, exchange and connect through food. All activities are always held in small groups (six immigrants and six Montrealers) to preserve a cozy atmosphere and open a space suitable to create new relationships. Moitié-Moitié aims to enhance the meaning of mutuality within a multicultural society, to break down cultural barriers, to give an opportunity to Montrealers to promote their culture,

> to facilitate immigrants' integration to a new culture and encourage them to speak French. (Design Ignites Change, 2013).

Another way that students can learn about and develop an appreciation for other cultures is through study abroad. Service-learning can be a component of study abroad (Bringle, Hatcher & Jones, 2011). North Carolina State University offers an international service-learning opportunity to students every couple of years. The summer program to Ghana, West Africa is called "Culture + Community + Design." The interdisciplinary experience first involves students learning about Ghanaian culture and society. Then, they travel to West Africa, visit places of historical and cultural significance, stay with host families and complete a service-learning project with local organisations to enhance the lives of Ghanaian youth. While literature about SL during study abroad exists (Klak & Mullaney, 2013), methods that design students can apply to understand the underlying values of other cultures and ensure that solutions are appropriate need to be investigated.

2.4.5. Economic factors

Graphic design has become a commodity. "Just about anyone with an internet connection and $300 can get a logo, brochure, or web design, all from the comfort of their couch, without ever having to meet the designer." (Holston, 2011, p.1) While many designers regard this commoditisation as devaluing the profession and unethical, Hartley (2009) believes this commercialisation is fine until "a division of labour between producers (the expert system within business) and consumers (seen as passive, out-of-the-loop and manipulable) is taken to extremes; when the tension between economic values (design as a creative service for sale) and cultural values

(interaction as a dialogic mode of communication) are not reconciled" (p. 5).

This is relevant to SLIDE. While design students could offer their skills and talents to create design concepts for nonprofit organisations and community groups, implementing the ideas often requires a production budget (e.g. professional printing and web hosting). Can universities work with nonprofits to secure funding for design production (e.g. collaborative grants)? Since 1999, Sappi's grant program, 'Ideas That Matter,' has contributed more than $12.5 million USD to fund over 500 projects to support designers who want to use their skills to solve communication problems for a wide range of charitable activities. The grant application requires a partnership between a designer and a nonprofit that can benefit from design. Another organisation, Design Ignites Change, offers an educator grant, but it requires detailed information about a project, including a description of the output and production budget. For design educators who encourage students to be involved in problem-finding and determining deliverables, this grant application process does not work.

2.5 Implications for design education

Based on the review of research literature related to service-learning and design education, an increasing number of design educators are either currently offering or are feeling pressure to offer service-learning opportunities to their students, but many do not know how to best coordinate such a project. Design education must consider how capability can best be built in the nine areas outlined in section 2.3.3 and how to embed these skills into course curricula. This research will also be mindful of the social, technical, environmental, cultural and economic factors affecting SLIDE.

A demonstrated need exists in design education to better understand: 1) the theoretical foundations of service learning as it relates to design, 2) the benefits for stakeholders, and 3) how to best integrate service-learning into curricula. Without this knowledge, service-learning in design education is forced to be experimental.

The following chapter includes a theoretical literature review. It provides an in-depth examination of theory related to service-learning and design to build the conceptual framework that underpins this study.

Chapter 3. Framing investigation

3.1 A pragmatic worldview

The logic underlying this study's research methodology is based on pragmatism, or focusing on "what works in getting research questions answered" (Punch, 2009, p. 291). From a pragmatic worldview, "substantive issues come before methodological and paradigmatic issues" (Punch, 2009, p. 291). In other words, questions first, methods second. The researcher focused first on research questions (what are we trying to learn?) and then determined which method(s) should be utilised (how can we best learn about it?).

The research topic for this study is service-learning in design education (SLIDE). Due to the complex nature of the topic, the researcher knew that "pluralistic approaches to derive knowledge" about SLIDE would have to be utilised (Creswell, 2009, p.10). The study called for a postmodern approach, taking "social, historical, political, and other contexts" into consideration, and a "theoretical lens that is reflective of social justice and political aims" (Creswell, 2009, p. 11). To formulate this lens, it is necessary to explore both sides of the topic – service-learning and design education – from a theoretical perspective.

3.2 Framing service-learning

This section examines theoretical literature about service-learning from Britt (2009) and Butin (2010). Their work presents various conceptualisations of service-learning.

3.2.1. Britt's service-learning taxonomy

Britt (2009) developed a taxonomy that identifies three different paradigms of service-learning. The conceptual framework in her dissertation was influenced by Morton's paradigms of service (1995), which are discussed in chapter two. Depending upon one's worldview, students may regard service-learning as an opportunity to develop as a learner, citizen or activist (see Figure 3.1 below).

The idea that students can be developed as "learners" is rooted in the philosophies of John Dewey. In this intellectual domain, students are active learners trying to understand the reflexive relationship between theory, skills and practice. Service is an activity that helps students crystalise their thinking by putting theory into practice and testing out their skills. The second pedagogy, which sees students as citizens, is rooted in the democratic tradition of civic education. In this moral domain, students focus on personal development of the self in relation to society. Service is a touchstone for shaping one's values. The third view focuses more on social change. In this political domain, students are change agents on a mission to right social injustice. Service-learning presents an opportunity to engage in efforts to correct systemic social disparities.
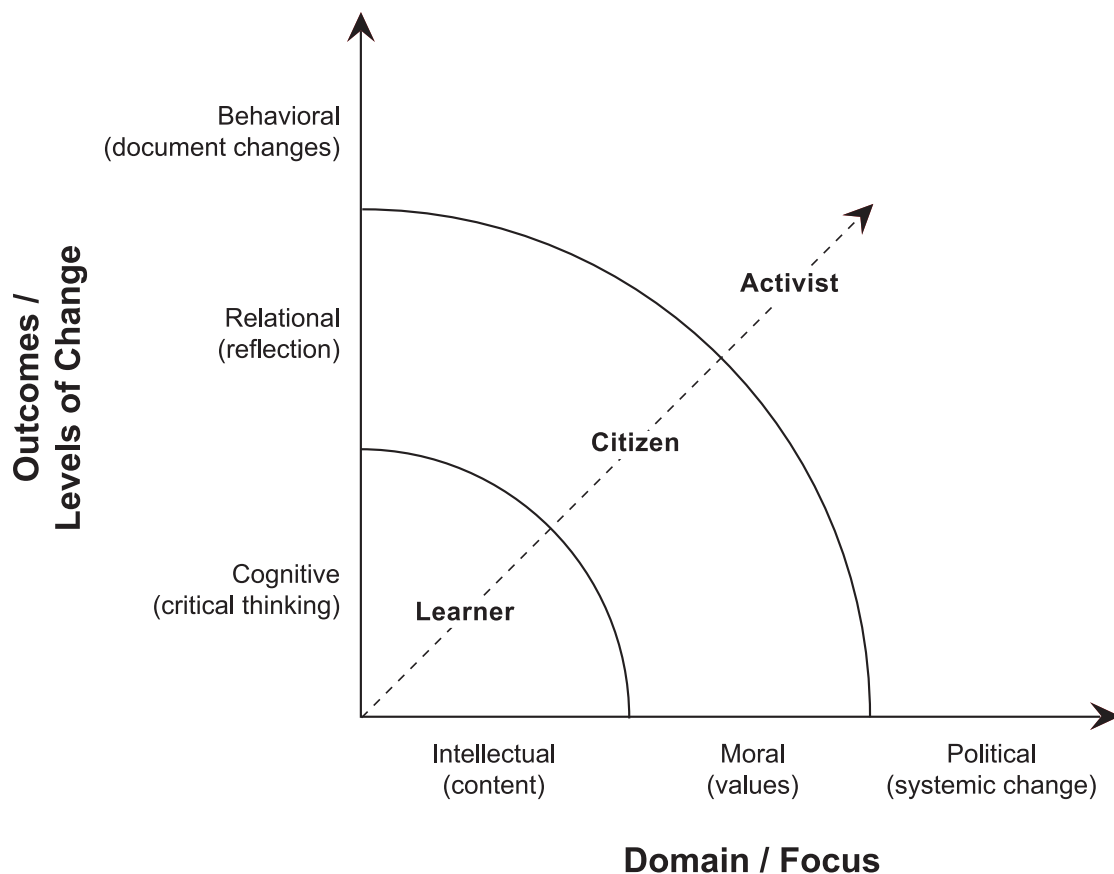
Figure 3.1. Service-learning taxonomy (based on Britt, 2009)

3.2.2. Butin's conceptualisations of service-learning

Dan Butin (2003; 2010) offers four conceptualisations of how service-learning is practiced and articulated in literature: technical, cultural, political and poststructuralist/antifoundational. From a technical perspective, there's not as much focus on the people involved in the process, but on the actual outcome or innovation – its characteristics and parts. This perspective is not concerned about the legitimacy of the 'product', the implications of the innovation, or how it will be implemented. This mindset ignores sustainability and lacks quality control. Instead, it highlights the measurable outcomes for the student, focuses on content knowledge and cognitive success through real-world experience.

In contrast, a cultural perspective emphasises the meaning that an individual student makes during a service-learning engagement. This meaning making is similar to Geertz's "webs of meaning" from 1973, which suggests that we make sense of the self with respect to our local community (micro) and global community (macro). An individual desires to be part of a larger community, and in order for this to successfully happen, the individual must work on the self, establishing strong morals and ethics, and develop cultural competency. This view is based on the principle that one learns more about the self by engaging with others. Because of this, there is concern for an innovation's appropriateness and how it fits into a given context, as well as acknowledgement that service-learning outcomes can and often are embedded within the process itself. This is somewhat similar to Morton's (1995) project model of service, which is situated in the middle of his continuum. This view focuses on defining problems and their solutions and implementing well-conceived plans for achieving them. The stakeholders have the resources to make something happen, not just talk about it.

Butin's third perspective is the political perspective, which is most concerned with power imbalances and the implications of decisions. This is similar to Morton's social change model (1995, p. 23), which focuses on transforming broken systems and politically empowering the powerless. From this point of view, service-learning has the potential to be an agent of positive change and has the benefit of transforming the relationship between teacher and student and the actual process of learning. Service-learning can also be seen as a potentially repressive activity when the community regards the person providing the service as a privileged individual that thinks they can solve societal problems simply by volunteering their time and caring. Key to preventing this from happening is involving all key stakeholders in the process, not

only the voices of intent (i.e. the decision makers), but also the voices of experience (i.e. the people affected by the change).

Another downside from this perspective, is that service-learning highlights deficiencies in the community. It offers up interim solutions, but then, due to the short nature of an engagement, doesn't allow for proper implementation and maintenance, thus allowing situations to return to the way they were before. Morton (1995, p. 21) discusses this as a weakness to the charity view of service in that "charity focuses on naming the deficits of those served, rather than their strengths, and creates a long-term dependency of those served on those with the resources." Regardless of one's good intentions, this perspective has a tendency to be weak, destructive and likely to make a situation worse in the long term instead of better.

The poststructuralist perspective, according to Butin, has two key premises. The first premise, which builds on Lyotard's work from 1984, is that there is no objective truth, thus knowledge and meaning are fragmented. The second premise, which builds on Focault's work from 1983, is that there is no single view of the self. It too is fragmented. How then does service-learning help students construct notions of the self and of others? One benefit of service-learning in this regard, is that it usually requires a student to 'cross the river' and experience the reality of someone who is physically, socially, culturally or intellectually different from themselves. This gives a student the opportunity to play a slightly different role to the one that they may feel cast in by their classmates. Thus, service-learning becomes a "site of identity construction, destruction and reconstruction" (Butin, 2010). When this perspective morphed into the "antifoundational" model, Butin added the key term of "cognitive dissonance" to explain how one's involvement with service-learning, which is often

full of doubt and uncertainty, leads to questions around the role of academic success in identity formation. This model describes issues facing nearly every student in the postmodern classroom and therefore will be regarded as an overarching theme, rather than a specific perspective.

3.2.3. Comparison of Britt and Butin

Butin's technical, cultural and political perspectives are similar to Britt's view of students as learners, citizens and activists, respectively. Where Butin differs from Britt is around the view initially described as poststructuralist (2003), but more recently referred to as antifoundational (2010). The researcher's view of service-learning aligns more with Britt's taxonomy. The conceptual framework for this study will test these approaches to service-learning in the context of design education.

3.3 Framing design

This section critiques and compares theoretical literature about design from Buchanan (2001b) and Jones (1992). Their work provides a scaffolding for discussing similarities and differences within the discipline of design. Practice-based models were also considered (Evenson & Dubberly, 2010; VanPatter & Pastor, 2011; Jones, 2014), but they serve only as a supplement to the theoretical framework.

3.3.1. Buchanan's orders of design

From a rhetorical stance, Richard Buchanan developed four orders of design. As shown in Figure 3.2, each order considers the abilities of a designer (e.g. inventing, judging, deciding, evaluating) and the disciplines of design (e.g. communication, construction, strategic planning, systemic integration) (Buchanan, 2001b). Each order is concerned with expression and styling and can be seen as an expansion of the order below it. First order design involves invention and communication via words and images, commonly found in graphic design, communication design and information design. Industrial designers typically deal with second order design, which focuses on a designer's ability to construct physical objects and have good judgment. Third order design requires strategic planning and decision-making skills to develop services and activities. Fourth order design involves systemic integration of thought and the ability to evaluate material critically.

Third and fourth order design is prominent in large service organisations that have substantial budgets for product development, strategic planning, marketing, etc. Small to medium-sized enterprises (SMEs) and nonprofit organisations deal with highly complex problems (e.g. declining membership, fierce competition) and need 'good design' as well, but they often cannot afford it. They focus on "other business practices like accounting, financial management, and formal planning" and may implement one or two marketing tactics instead of "the adoption of a comprehensive marketing strategy" (Dolnicar & Lazarevski, 2009).
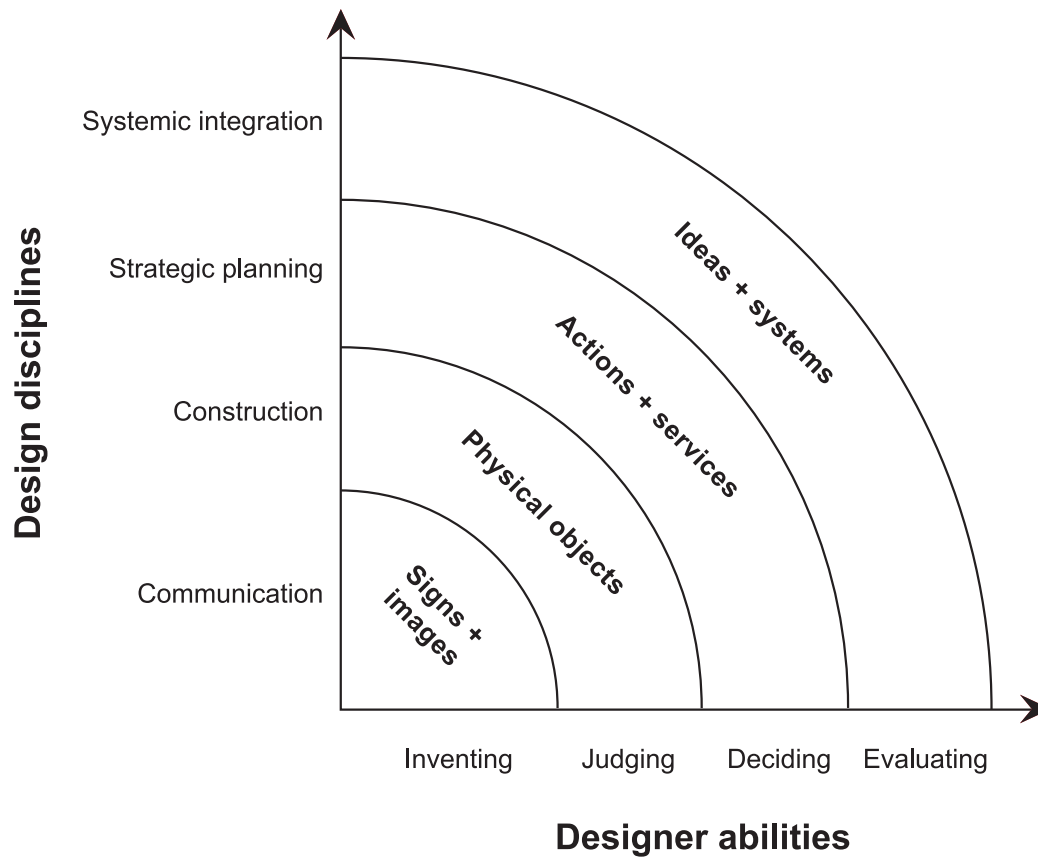
Figure 3.2. Orders of design (based on Buchanan, 2001)

3.3.2. Jones' scale of design problems

In the 1970s, design methodologist John Chris Jones developed a hierarchy of design

problems (Figure 3.3). At the bottom of this hierarchy are areas where design has a

long history. For example, graphic designers are well known for creating logos,

posters, and brochures. Jones (1992) regards these sort of projects as components. The

next rung on the ladder is products, or interrelated components, typical to industrial

design. Moving up another level is systems, which he regards as interrelated products.

At the top of the hierarchy is community, or interrelated systems. More recent studies

have expanded on his work, but still acknowledge the increasing complexity. For

example, the NextDesign Geographies start with Design 1.0: traditional design and

escalate to Design 4.0: social transformation design (VanPatter & Pastor, 2011).
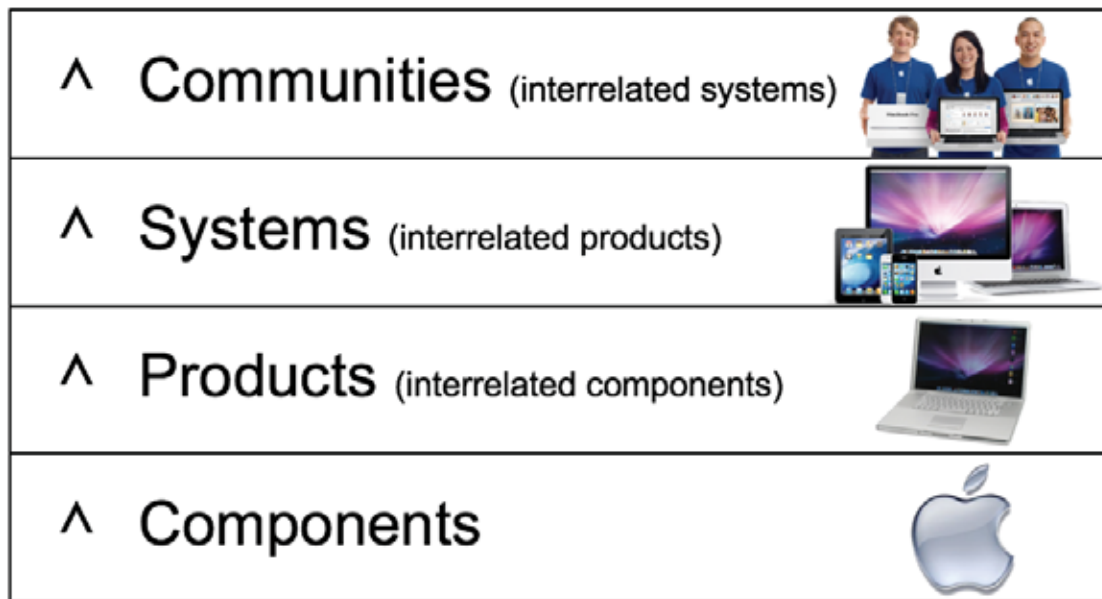
Figure 3.3. Scale of design problems (based on Jones,1992; Davis, 2005)

Historically, problems at the lower levels were regarded as only needing one solution—the design of a single component that existed in isolation. In the 1970s, logo designers rarely considered their client's business and the other components or products in the communication system (Burroughs, 1991). As a result, they were criticised for creating pieces that neglected context. Designers can no longer practice this way because design problems, at any level, are now seen as part of a larger system (Jones, 2014). When this realisation first happened in the 1990s, the resultant approaches to design placed emphasis on people and place (Margolin, 2007). Job titles like interaction designer, human-centered designer, and user experience designer were coined. This generation of designers considered more than the aesthetic qualities of a product. They were mindful of the contexts of use (Buchanan, 2001b). In the past decade, discourse about design thinking has shifted once again, to be inclusive of the process, stakeholders and design tools for different types of challenges (VanPatter & Pastor, 2011).

In our complex, postmodern society, designers are increasingly dealing with problems at the upper levels of the hierarchy. This involves issues with organisational and social systems (Jones, 2014). Meredith Davis (2005), a prominent design researcher at North Carolina State University, believes that design education doesn't do much to help students develop the systems thinking that is needed today:

> Unfortunately, much of our graphic design activity (and design education) also approaches design problems at the product and component levels. We frequently define our task as simply designing a brochure or Web page. Even corporate identity—the classic "systems" problem in graphic design—is reduced to a product by most graphic designers, beginning with the components of logos and typefaces and expanding as a graphic standards manual. Rarely are these identities envisioned as part of a communication system that includes the needs of salespeople working with customers, the branding of products sold by the company, the place of design activity within the corporate hierarchy, and the technology used for communicating among employees. (p. 16)

What can we take away from this? The successful designer of the twenty-first century must have a big picture view with an understanding of how systems function. While problems in design are inherently complex, wicked problems are certainly more prominent at the upper levels of Jones' hierarchy. Many designers view these wicked problems as challenges and ask themselves, "How can design improve this situation?" Wicked problems can be great opportunities for change, and design has the potential to be an agent of change (Golsby-Smith, 2008).

3.3.3. Comparison of Buchanan and Jones

The matrix below (Table 3.1) visualises the relationship between Jones' scale of design problems and Buchanan's orders of design. After placing examples into each cell, an observation was made: Each order of design can have within it a scale of

problems. This hybrid model can serve as an organizing framework for discussing different designer abilities, design disciplines and design problems. It is intended to provide visibility into issues occurring at the boundaries of disciplines.

Table 3.1. Scales of problems in orders of design

	1st Order	2nd Order	3rd Order	4th Order
Community	Brand	Video Game Console	Travel Experience	Policy
System	Corporate Identity System	Product Line	Flight Check-in	Organisation
Product	Business Card	Game	Kiosk / App	Program
Component	Logo	Character	Boarding Pass	Event

3.4 Theoretical framework: Using the SLIDE matrix to frame investigation

The intersection of a service-learning taxonomy (Morton, 1995; Hesser, 1995; Britt, 2009) with the orders of design (Buchanan, 2001b; Jones, 1970; Rittel, 1972) creates the theoretical framework for this study. Figure 3.4 visualises the relationship between one's view of service and the orders of design. The SLIDE matrix will be used in this study to frame investigation. It could also serve as a heuristic to help practitioners make informed choices about service-learning and discuss goals with students and community partners.

The hypothesis presented below is that lower-level design subjects offer service-learning projects that require students to individually solve tame problems (e.g. design a logo), while upper-level design subjects offer service-learning opportunities that

involve students working in teams to articulate and crack wicked problems (e.g.

improve our customers' experiences).
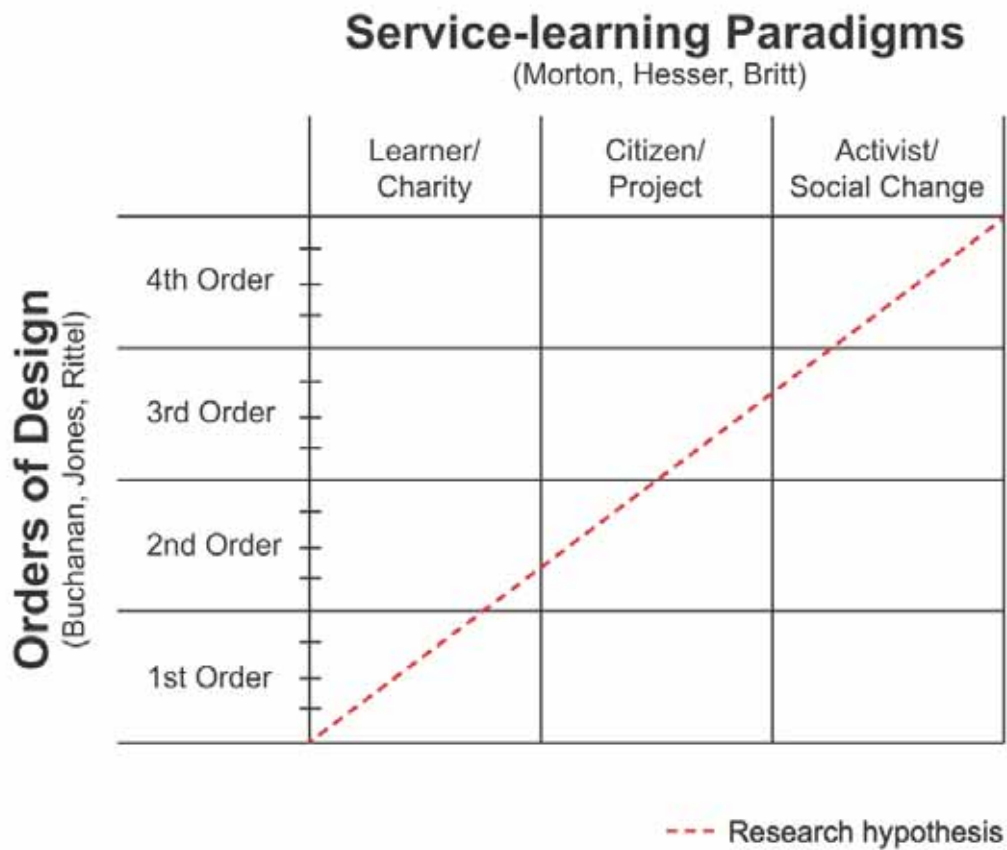
Figure 3.4. The SLIDE framework

3.5 The main research question

To narrow the focus of this research topic, the following general research question

was formulated: To what extent is service-learning in design education mutually

beneficial for design students and community partners?

While the main research question was useful to guide thinking, it needed to be

unpacked into specific research questions that pointed to empirical procedures and

could be answered by the research data (Punch, 2009, p. 60). After unpacking the

main question, it became apparent that this topic could be viewed from two perspectives—inside-out and outside-in. Inside-out is the academic view of service-learning, concerned with benefits to the student and university. Outside-in is the community view of service-learning, whereby 'community partner' refers to staff and service users at nonprofit organisations and charities. When researching the topic, these two views should not be considered as separate streams, rather different lenses for viewing the university-community partnership, or more specifically, the designer-client relationship. This is a more holistic approach that recognises the relationship between design students and community partners, instead of regarding these as two separate forces. Table 3.2. reveals how the second and third levels of inquiry relate back to the main research question.

Table 3.2. Unpacking the research question

Research topic:
Service-learning in design education
General research question:
To what extent is service-learning in design education mutually beneficial for design students and community partners?

Specific inside-out questions:	Specific outside-in questions:
To what extent does service-learning in design education benefit design students?	To what extent does service-learning in design education benefit community partners?
What does the 21st century designer need to know?	What are the design-related needs (and assets) of nonprofit organisations?
How does service-learning build capability in these areas?	How does service-learning meet these needs?

Below are the questions that were developed along with a brief overview of the method(s) selected to investigate each of them. The detailed rationale, which explains why each method was chosen over other available methods, can be found in chapter four and chapter six.

To address the main research question, a broad scan of the operating environment was needed. Feedback from service-learning practitioners in design education would help to shape the study. In order to "collect large amounts of information from a wide population in a relatively short amount of time", a survey was determined to be the most appropriate way to initially approach these questions (Visocky O'Grady, 2009, p.48). An online survey was administered with design educators at tertiary institutions to gain an understanding of the current situation with regards to SLIDE. The survey was mostly quantitative in nature, since it was intended to be a broad scan of the current situation, but it also sought qualitative insights.

3.5.1. Specific inside-out questions

- To what extent does service-learning in design education benefit design students?
- What does the 21st century designer need to know?
- How does service-learning build capability in these areas?

In order to investigate the first inside-out question, the second question needed to be answered. A review of literature about design education and design practice was performed to determine the desirable capabilities of a 21st century designer. Design education must consider how capability can best be built in the nine areas outlined in

section 2.3.3 and how to embed these skills into course curricula. The researcher developed questions for each theme:

1. How can students learn to work in multidisciplinary teams?

2. How can students learn to develop empathy with clients and users?

3. What sort of skills and knowledge do designers need to be equipped with to work effectively and strategically on projects that affect communities at the systems-level?

4. What sort of class projects will give students experience with "communication problems"?

5. How can students gain experience finding problems, which involves being involved in early conversations about a project?

6. Undergraduate design students need to learn how to approach and solve "wicked problems", but what does this involve and how can it be taught?

7. How can ethical practice be emphasised?

8. How can students realise the significant role that contextual forces play in shaping a project?

9. How can students learn to justify their design decisions and explain the value of design?

These questions relate to many aspects of design education—the people involved, the nature of design projects, the creative process and the outputs—that will be addressed in this study. Case study research was identified as a valid method to approach these questions. These capabilities acted like a measuring stick during this phase. In-depth interviews were conducted with design educators to explain some of the survey results and to better understand the practice of service-learning across the four orders

of design. Feedback was also gathered from design students and community partners to learn more about the benefits associated with design-related service-learning.

3.5.2. Specific outside-in questions

- To what extent does service-learning in design education benefit community partners?
- What are the design-related needs (and assets) of nonprofit organisations?
- How does service-learning meet these needs?

Since the first outside-in question is rather broad and the second question is more specific, it was targeted first. To address the second outside-in question, a variety of information needed to be collected from a large sample. An online survey was administered with nonprofit organisations in Australia, the United States and the United Kingdom to discover their design-related needs and potential assets. Once these needs were better understood, then the third question could be addressed. A small sample of community partners participated in case study research to determine the benefits of design-related service-learning on the community.

3.6 Overview of the research methodology

A two-phased, mixed methods explanatory design (Punch, 2009) was devised as a good way to approach the research questions outlined above. By definition, an explanatory design uses "qualitative data to help explain, or to build upon, initial quantitative results" (Punch, 2009, p. 296). The first phase was about breadth—to develop a general understanding of service-learning from a large sample of design educators and community organisations—and the second phase was more about depth—to gain an in-depth understanding of the benefits for design students and community partners. For example, case study research in phase two was done to explain the results from an online questionnaire conducted in phase one. According to Punch (2009), this approach is often used where results from an early phase "guide the selection of subsamples for follow-up in-depth qualitative investigation" (p. 296).

The model below (Figure 3.5) visualises the relationship between these phases and briefly describes the purpose, sample and data collection methods used during each phase. The detailed rationale for the research design of phase one is detailed in chapter four, and the logic underpinning the design of phase two is explained in chapter six.

DESIGN EDUCATORS

PHASE 1A

Method: Internet Survey

Purpose: To better understand design educators' general involvement with and perceptions toward service-learning

Sample: Design educators at tertiary institutions in Australia, the United States and the United Kingdom.

Results: Numeric data + text data

COMMUNITY PARTNERS

PHASE 1B

Method: Internet Survey

Purpose: To develop an understanding of the design-related needs in local communities

Sample: Non-profit organisations and community groups in Australia, the United States and the United Kingdom.

Results: Numeric data + text data

Analyze data from Phase 1A. Results from Phase 1A guide the selction of partipants for Phase 2.

Analyze data from Phase 1B. Results from Phase 1B inform the specific questions for Phase 2.

DESIGN STUDENTS

PHASE 2: CASE STUDY RESEARCH

Methods: In-depth interviews, survey, document analysis, artefact analysis

Sample: Service-learning practitioners in design education

Purpose: To explain the results from Phase I, and to better understand how a design educator practices service-learning.

Results: Text data (interview transcripts + notes) + numeric data + photographs

Methods: Survey, focus group, observation

Sample: Design students who have participated in service-learning projects

Purpose: To explain the results from Phase I, and to learn about the benefits for students.

Results: Text data + numeric data

Methods: Survey, in-depth interviews

Sample: Representatives from organisations that have been community partners during service-learning projects

Purpose: To explain the results from Phase I, and to learn more about the experience from a community partner's point of view.

Results: Text data + numeric data

Synthesize findings from two phases, articulate pros + cons of SLiDE, discuss implications of findings and the need for future research

Ongoing Self-reflective Practice

Method: qualitative narratives
Results: text data

Figure 3.5. SLIDE research methodology

3.7 Ethics approval

Before conducting any research, ethics approval needed to be obtained, including

consent forms and informational sheets for design educators, students and community

partners. The researcher applied for ethics approval in September 2010; it was

subsequently granted in October 2010. The permit number for the study is H3873.

Chapter 4. Phase one: Research design

4.1 Introduction

Two surveys were developed and administered to learn about service-learning in design education (SLIDE) from two very different perspectives—the university and the community. Design educators were surveyed to better understand their general involvement with and specific experience with service-learning, as well as their perceptions toward and benefits associated with service-learning. Staff at nonprofit organisations were surveyed to learn about the design-related needs that exist in the community, previous experience working with students and interest in forming future service-learning partnerships. This chapter discusses the development of these surveys, the process of collecting data and the approach to analyse data.

4.2 Online survey with design educators

4.2.1. Purpose

The main purpose of the survey was to learn what it currently means to practice service-learning in design education and why educators do so. Another important function of the survey was to discover interesting examples for future case study research, thus the researcher needed to learn which schools were actively practicing SLIDE.

As discussed in chapters one and two, there is an abundance of literature about service-learning in general, but very little information exists about service-learning in

design education. Thus, another major goal for this survey was to formally define what "service-learning" means for the discipline of design.

4.2.2. Online survey as a research method

There are a variety of ways to conduct a survey—by phone, mail, email, or internet. Of the available methods, how could design educators best be surveyed? Considering that most tertiary institutions have an online directory of teaching staff, the following contact information could be collected: phone numbers, mailing addresses and email addresses. The cost associated with mail surveys, both the expense for paper and postage, was a major downside to this mode. Cost was also a concern with phone surveys, because international calls would have to be made. This left email and web surveys as the two most viable options.

Both email and web surveys are a form of self-administered questionnaire. An advantage of self-administered questionnaires is that "people can fill them out at their own speed, taking time to comprehend each question and provide a thoughtful answer." (Dillman, 2009, p. 81) When compared to phone surveys, this is a major advantage. With self-administered questionnaires, the researcher cannot control, however, what a respondent reads or chooses not to read. Instructions or long lines of prose are more likely to get skipped over.

When dealing with a large sample size, web surveys have a few advantages over email. With email surveys, the survey instrument is contained in the body of the message or as an attachment (Elliott, Fricker & Schonlau, 2002, p. 1). Whereas with web surveys, the survey instrument is managed by a software company that can help

with automation, skip logic and statistical analysis. Therefore, a web survey was selected as the best mode for this study.

There are a few risks associated with conducting a web survey that should not be ignored. Due to the popularity of online questionnaires in recent years and their ability to survey large samples of populations, this method gives "new meaning to the notion of being over-surveyed" (Dillman, 2009, p. 412). A concern, therefore, is that the sample for this study has received numerous requests to complete surveys and may not respond. The invitation to complete the survey, sent via email, must clearly communicate the advantages of participating in this study, which are to improve practice and build knowledge about SLIDE. There is also the risk that the email invitation could be marked as spam, depending upon the recipient's security settings. In the end, it was decided that the benefits of a web survey method outweighed the risks, hence the next steps involved researching software companies that offer this online service.

Three survey companies were considered for this study: Qualtrics, Remark, and Survey Monkey. Qualtrics provides comprehensive technical support for survey design and set up, which can include assistance with the actual development of the questionnaire. Qualtrics offers customisation with regards to visual design. For example, it is possible to incorporate a range of graphics for different types of questions (i.e. slider scales, collage-making, responses to imagery, 'hot spots' where users have clicked). Qualtrics also creates high-resolution graphs of results for publishing. There were, however, two main disadvantages to Qualtrics. The company hosts the survey, which means the researcher only gets the archival data, not the back-end code from the actual survey. If a researcher's subscription and license runs out,

then they lose access to the working files. Secondly, it was an expensive service that was far beyond the available funding supplied for this research project.

Remark Web Survey Software is not as comprehensive as Qualtrics, but it allows users to create web surveys and then host them on their own website. The software includes a built-in analysis program that could provide survey statistics and reports. The main downside to Remark was that it had to be purchased from an authorised reseller in Australia. It was not available for download from their website and was also too costly on this occasion.

Survey Monkey was the most affordable option of the three survey companies. The selected plan allowed an unlimited amount of questions, unlimited responses, skip-logic, enhanced security, and MS Excel and PDF export. In addition to being achievable in terms of cost, Survey Monkey is easy to use. There are a variety of customisable survey templates available, and once created, a survey could easily be distributed to an email database. The researcher also had previous experience with this company, thus it was chosen for this study.

4.2.3. Sampling: Developing the email database

Since the survey was to be administered online, an email database had to be developed. The parameters for the database were established, which included design educators from tertiary institutions in Australia, the United States of America (USA) and the United Kingdom (UK) that offer a major in graphic design or a closely related field. As noted in chapter one, these countries differ significantly with regards to their population, demographics, taxation structure, number of nonprofit organisations and

level of volunteerism, but they are all English-speaking countries where design

education is firmly established (Dolnicar & Lazarevski, 2009). While a sample from

this population would only be representative of the English-speaking part of the

design community, it would still be too broad to survey every design educator in these

three countries. As a way to narrow down the population, the following ranking

systems and resources were utilised to form the database:

- *Australian Education Network (AEN)* - Rankings of Australian Universities

- *AGDA:* Australian graphic design colleges and courses

- *U.S. News & World Report* 2008 Fine Arts Specialty Rankings for Graphic
  Design and Multimedia / Visual Communication

- AIGA's Design Educator's Community – Steering Committee Members

- University & College Designers Association (UCDA) – Executive Committee

- *Design Ignites Change* - Participating Colleges and Universities

- *Businessweek* 2007 D-Schools: The Global List

- *Guardian* University Guide 2010: Art and design

- Web searches that identified schools active in service-learning

These resources resulted in a list of 134 tertiary institutions. Of those, 106 institutions

met the criteria of being in a country where English is the first language, design

education has a long history, and service-learning design practitioners exist in higher

education. The database ultimately included design educators from 22 tertiary

institutions in Australia, 68 tertiary institutions in the USA, as well as 16 tertiary

institutions in the UK.

These three countries were also chosen in order to develop a sense of how service-learning has existed over time in the tertiary design sector. For example, service-learning has been growing steadily in the USA since the 1980s, hence it was anticipated that some interesting examples would emerge from that country. The fact that service-learning has a longer history in the United States than in Australia was discussed in chapter one, but is worth mentioning again here. Since this study has a large, multi-national database, participants' knowledge of and experience with service-learning will undoubtedly vary significantly. The survey was therefore designed to explore this range. Questions were developed for experienced educators to answer that inexperienced educators could skip.

Terminology was carefully considered, as it may affect reliability and validity. According to Punch (2009), reliability speaks to the consistency of measurement, and validity is the extent to which an instrument measures what it claims to measure (p. 359-360). A consequence of having a multi-national database is that some participants may practice service-learning but call it something else. In the UK, for example, service-learning usually falls under the umbrella of public engagement. This complicates the survey instrument's ability to accurately measure an educator's experience with, attitudes toward, and perceptions of service-learning. To address this concern, a definition of service-learning and some prose about who should complete this survey were included in the information sheet. The following points were provided in order to ensure those relevant to the survey were identified:

Who should participate in this survey?

Design educators who have experience with service-learning, community-based projects, real-world projects, or work-integrated learning (WIL) initiatives at tertiary institutions.

What is service-learning?

At its most basic level, "service-learning involves both service to the community and learning tied to academic curriculum" (Billig & Waterman, 2003, viii). Service-learning involves students and a community organisation partnering to address a need in the community. Facilitated learning should take place both in the classroom and in the community.

4.2.4. Designing the survey

After reviewing literature about SLIDE, it became apparent that a broad scan was needed to a) better understand design educators' general involvement with and specific experience with service-learning, and b) better understand perceptions toward and benefits associated with service-learning.

A hypothesis of phase one was that lower-level undergraduate subjects do not incorporate as many complex, service-learning projects as upper-level and graduate-level subjects. The survey was therefore constructed to distinguish between service-learning projects at associate and bachelor degree levels, and also at the graduate or postgraduate stage.

The researcher brainstormed topics and questions to investigate. The questions were organised into the following categories: background information about participants, their general involvement with service-learning, specific experience during one service-learning project, perceptions of service-learning, and their interest in future research.

- *Background information – 15 questions*

  The first section requested basic information from a participant (e.g. employment status, work experience, current location, type of school).

- *General involvement with service-learning – 7 to 15 questions*

  Questions asked about the participant's history with service-learning, the number of engagements they've coordinated, the level of students involved in the projects (undergraduate or graduate), their view on service-learning and the types of community partners.

- *Specific experience with service-learning – 14 to 15 questions*

  This section focused on learning about one successful project in detail (e.g. logistics around finding a community partner, framing and managing a project, etc.).

- *Perceptions of service-learning – 10 questions*

  This section was about the pros and cons of service-learning, including perceived benefits and learning outcomes for students, reported benefits and challenges for community partners, and challenges for educators.

- *Interest in future research – 3 questions*

  The purpose of the final section was to learn whether or not a participant would be interested in getting a summary of the results and/or participating in future research.

An initial draft of the survey was shared with research supervisors, who voiced a concern about length, which warranted further consideration. Zanutto (2001) claims that the ideal length for a web survey is twenty minutes, but most researchers hesitate to specify a time. Instead, Dillman (2008) states that survey length and topic "both influence respondents' perceptions of rewards and costs" (p. 36). A long and dry survey has an increased cost, while a long and interesting survey reduces the perceived cost to the participant. This raised the question: Would participants find the topic of this survey interesting? If a participant had no experience with service-learning, they would be asked 26 questions. Only the educators with relevant experience at both the undergraduate and graduate levels would be asked the full set of 56 questions. While this may sound like a lot, the majority of the questions were either multiple-choice questions or rating scales. However, feedback on the length needed to be gathered during testing so to avoid survey fatigue.

Due to the quantitative nature of the survey method, the process by which data would be collected and measured was important. This particular tool could be regarded as a multivariable survey, seeking a wide range of information based on the conceptual framework of this study. It sought to collect factual information and also measure attitudes and behaviors (Punch, 2009).

The first half of the survey contained mostly factual questions, designed to learn about a participant's background and their general involvement with service-learning. As it progressed from the general to the specific, the type of data the survey sought to measure changed from demographic to psychographic. "Psychographics is a quantitative tactic used to measure subjective beliefs, opinions and interests" (Visocky O'Grady, 2009, p.47). These sorts of questions attempt to gauge subjective

data, like personal preferences, and are best incorporated into early phases of a research engagement, during problem identification or problem solving (Visocky O'Grady, 2009, p.47).

Behavioral questions asked respondents to share details about one service-learning class project that they had successfully coordinated in the past. Most of these questions dealt with categorical variables (Punch, 2009, p. 234). For example, responses to the question, "What type of client did you partner with?" were mutually exclusive categories, like public sector or private sector.

In contrast, questions about one's perception of service-learning and associated benefits dealt mostly with continuous variables (Punch, 2009, p. 235). For example, a response to the following question could be placed on a continuum—in this case, a five-point scale. "How helpful do you think involvement in a service-learning project is in developing students' skills for working in multi-disciplinary teams?" The degree of helpfulness could be measured on a polar-point labeled scale from one for "extremely helpful" to five for "not at all helpful". With any questions that asked respondents to rate their experience, the researcher was careful to have a balanced scale focused on a single concept with a neutral midpoint, because people tend to respond to "the number of categories as well as the labels" (Dillman, 2009, p. 270).

In addition to basic rating scales, the online survey made use of ones that required a response to multiple stimuli. Rating scales of this nature can provide more specific feedback than having the option to "check-all-that-apply," especially when trying to measure psychographics. For example, the researcher wanted to know what inspires an educator to undertake service-learning and the importance of each stimuli. Instead of simply listing the four possible responses with a check-all-that-apply option,

respondents were asked to rate the following mutually exclusive categories from one for "most important" to five for "least important":

My school encourages it	1	2	3	4	5
The community needs it	1	2	3	4	5
The students benefit from it	1	2	3	4	5
Personal interest	1	2	3	4	5

By forcing a respondent to indicate a level of importance for each, the results will more accurately reflect the opinions and beliefs of participants, whereas the check-all-that-apply option can burden participants and make them feel like they have to go down the list until they have provided a satisfactory answer (Dillman, 2009, p. 62).

Matrix questions were used sparingly because they require a lot of work on the behalf of respondents, however they can reduce completion time and the number of missing items in the data (Elliott, Fricker & Schonlau, 2002, p. 43). One question that warranted this approach was, "Which of the following describe the nature of the service-learning activity that you've coordinated?" Responses ranged from logo design to systems design. The researcher wanted to not only know which type of projects educators had coordinated but also at which level, from first year through to post-graduate.

After the questions were written, a draft of the survey needed to be tested on individuals who were representative of the sample to evaluate cognitive and motivational qualities of the design (Dillman, 2009, p. 141). A printed version of the survey was tested with a full-time educator, a female who had experience with service-learning at the undergraduate level. It is worth noting that English is her second language. According to the Australian Bureau of Statistics (2008), "one in five Australians aged 15-74 years spoke English as a second language" in 2006. It is therefore likely that English will be the second language for several survey participants, so this pre-testing session allowed the researcher to observe what the experience of reading the survey would be like for someone in this situation.

During the cognitive interview, the participant was presented with printed drafts of the following: an information sheet about this study, a consent form and the survey. These documents can be found as Appendix A. She was encouraged to follow the concurrent think-aloud protocol and explain what she was thinking and feeling as she read through the material and attempted to answer each question. This method allows a researcher to "not only see the process of task completion unfold", but also to identify the aspects that "delight, confuse, and frustrate people so that they can be corrected or improved" (Hanington, 2012, p. 180).

This approach resulted in rewording several questions and adding some more detailed information about the study. The participant recommended that key terms, like service-learning, be defined in the information sheet instead of later in the survey. "Tertiary institution" was also defined to include many forms of higher education.

The participant completed the survey, discussing several questions along the way. When asked about length, she did not feel that there were too many questions. This was positive feedback, especially considering that the concurrent think-aloud approach added time to the testing session. After feedback from the pre-testing session was incorporated, the online version of the survey was built.

4.2.6. Building and testing the online survey

There were a few differences between the paper and web versions of the survey, which warranted another round of testing before distribution could begin. With the paper testing, there were three separate documents—the information sheet, the consent form and the questionnaire. With the online version, the text from the information sheet was presented on the first page of the survey site so to have a "welcome screen" that emphasised the "ease of responding" and instructed respondents on "the action needed for proceeding to the next page" (Dillman, 1998, p. 7). After reading about the study, a participant could click the 'Next' button to advance to a page where they were required to give consent to participate in order to continue. The consent page contained only one question that was fully visible and easy to comprehend by all respondents (Dillman, 2009, p. 92).

From that point forward, questions were grouped into categories because 'skip logic' was utilised. Dillman (2009) recommends constructing web surveys so that participants can scroll down the page, from question to question, because it gives site visitors the freedom to pass a question and come back to it later (p. 395). In contrast, Elliott, Fricker & Schonlau (2002), advise to "list only a few questions per screen" so

that respondents do not have to scroll, which can become a burdensome activity and give the impression that the survey is too long to complete (p. 42). However, when "order effects are a major concern", which was the case for this questionnaire, Dillman is supportive of shorter pages, where the web survey is built to require a response to one question "in order for a new screen and question to appear" (2009, p. 395). He sees this as one of the clear advantages of web surveys, because respondents can be directed to skip large numbers of questions without being aware that it is happening (Dillman, 1998, p. 11). This seemed like a useful approach and a good way for respondents to only be presented with the most relevant questions based on their experience.

The digital prototype was tested with a part-time teaching staff member. This male participant had experience with service-learning at the undergraduate level. He was encouraged to complete the questionnaire online, only pausing if a question needed attention. The researcher observed and timed this testing session. The participant paused on nine questions to make suggestions or clarify something. Considering this, it took the participant 27 minutes to complete the survey.

After completing the survey, a semi-structured interview was conducted and the participant was invited to retrospectively comment on their experience. When asked about flow, he felt that the order of questions made sense – from general to particular. When questioned about the survey length, he felt that it was fine. Since the questions asked about one's "personal approach" to practice, they were "easy to answer". He did suggest adding a progress indicator. A progress bar was therefore added to the top of the screen, so that participants could see the percent complete. The following point was also added to the information sheet to address this concern:

How long will it take to complete the survey?

Your participation in this study involves the completion of an online questionnaire, which asks about your involvement with and/or perceptions of service-learning in design education. It is estimated that the questionnaire should take approximately 20-25 minutes to complete. If interested, you may request to see the summarised results of the survey.

4.2.7. Data collection

The Tailored Design Method (Dillman, 2009) was utilised in an attempt to achieve a good response rate. This involved developing three contact letters and then distributing them to educators in the email database over a period of several weeks. The first letter, known as the Pre-Approach Letter (PAL), was intended to inform people about the research. The second letter, sent approximately four to five days later, included an invitation to participate in the research. The third letter, sent approximately seven to ten days after the invitation, was a follow-up, either thanking people for their participation or reminding them to complete the survey. The letters also encouraged recipients to share the survey link with their colleagues, in the hope of causing a snowball effect. The contact letters can be found as Appendix B.

The database was organised into three categories—Australia, USA, UK—so that email invitations could be distributed in three phases. This distribution method allowed the results to be tracked, questions to be tested, and language to be culturally specific (e.g. used the word "subject" in Australia, but "course" in the USA).

The distribution of the survey is outlined below:

1. Distributed online survey to 332 email addresses from 22 institutions in Australia during July and August 2011:

    a. 41 contacts (1st batch) – PAL on 13 July 2011; Invite on 19 July 2011

    b. 291 contacts (8 batches) – PAL on 19 July 2011; Invite on 22 July 2011

    c. Followed-up with all on 24 August 2011

2. Distributed online survey to 547 email addresses from 68 different schools in the USA during October, November and December 2011.

    a. PAL on 23 October 2011; Invite on 28 October 2011; Follow-up on 15 November 2011; Final reminder on 15 December 2011

3. Distributed online survey to 141 email addresses from 16 different universities in the UK during November and December 2011.

    a. PAL on 22 November 2011; Invite on 30 November 2011; Follow-up on 05 December 2011; Final reminder on 16 December 2011

Total contacts in database: 1,020*

Total number of email addresses in database. Does not yet reflect emails that bounced back.

Response rates from the online survey with design educators are specified for each database. The link was sent successfully to 945 contacts. A total of 111 responses were collected on Survey Monkey. The overall response rate was 11.75%.

1. Australian database - 44/320* = 13.75%

    a. Before the follow-up letter: 29 responses

    b. After the follow-up letter: 44 responses

2. USA database - 54/492** = 10.98%

    a. Before the follow-up letter: 23 responses

    b. After the follow-up letter: 43 responses

    c. After the second follow-up: 54 responses

3. UK database - 13/133*** = 9.77%

    a. Before the follow-up letter: 5 responses

    b. After the follow-up letter: 11 responses

    c. After the second follow-up: 13 responses

Sent to 332 contacts, but 12 emails bounced back, thus the total of 320.

** *Sent to 547 contacts, but 55 failed, either because the organisation regarded the message as spam and rejected it, or there was an auto-reply indicating the person was on leave.*

*** *Sent to 141 contacts, but 8 emails bounced back, thus the total of 133.*

While the response rate in Australia was the highest, more educators from America participated (Figure 4.1).
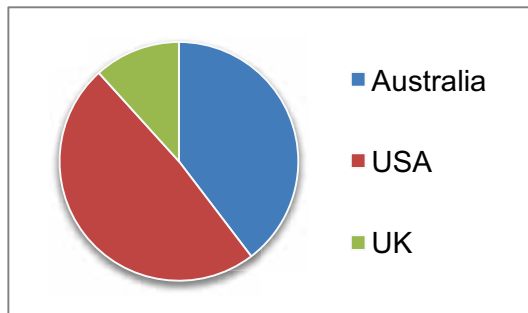
Figure 4.1. Survey respondents by country

4.3 Needs assessment with nonprofit organisations

4.3.1. Purpose

The main purpose of this survey was to learn about the design-related needs that exist in a community. The survey was also being administered to learn about previous experience that nonprofit organisations have with university students and to see if they would be interested in future service-learning partnerships.

The overarching research question for this phase was, "What are the design-related needs of nonprofit organisations?" Since discussion about the design-related needs in local communities is lacking in literature, an extensive needs assessment was necessary to develop this understanding. According to Stoecker (2005), an extensive needs assessment gathers feedback from a large sample, whereas an intensive needs assessment is done with a handful of participants (p. 97). Consequently, a common method for doing an extensive needs assessment is the survey, which has many

advantages. One benefit, for example, is that it can quickly gather feedback on specific issues from a large sample.

The community survey with nonprofit organisations is part of phase one, as opposed to being a part of phase two, for several reasons. Firstly, it is a quantitative method to be conducted with a larger database, which does not fit with the more qualitative case study research in phase two. Secondly, it will serve a similar purpose to the educator survey, in that it's intended to be a broad scan of the current situation. And finally, since the educator survey was designed to identify perspectives on service-learning from the inside-out, the community survey is needed to gain perspective from the outside-in.

4.3.2. Sampling

Since the educator survey targeted participants in the US, UK and Australia, the community survey followed the same protocol. The researcher then had to consider how the database would be structured. One option was to survey organisations in six areas – one small town and one large city in each of the three countries (e.g. Townsville, Queensland and Sydney, New South Wales in Australia, Saint Augustine, Florida and Raleigh, North Carolina in the United States, and Dundee, Scotland and London, England in the United Kingdom). While these cities are quite different with regards to population, location and economy, they do all have a variety of tertiary institutions (i.e. 'college towns' with a public/research university, a private/liberal arts college and a technical/vocational school). Also, design educators in each of these areas (except London) were in the email database for the educator survey, which

meant that it was possible to have community feedback from areas in which case study research was likely going to be performed. This raised the following question – should feedback only be sought from organisations within a certain radius of the sites? If so, that would make the community survey part of case study research. Yin (2009) calls this a "nested arrangement" or an "embedded unit of analysis," instead of a separate phase. However, the researcher decided not to make the community survey a part of phase two because that would limit the sample to areas in which service-learning is already active. As stated above, the survey needed to be more extensive than that.

4.3.3. Designing the survey

The survey was designed to be a needs assessment. Gupta (2011) defines a need as "a learning or performance gap between the current condition and the desired condition" (p. 14). Needs assessment is therefore the process of trying to figure out how to close this gap. The questions for this survey were developed to address these three areas – current condition, desired condition, gap. In other words: Where are we now? Where do we want to be? And how do we get there?

A SWOT analysis was utilised to understand the current condition with regards to strengths, weakness, opportunities, and threats. A SWOT analysis is performed to gain an understanding of the broader context's opportunities and threats so to explain an organisation's successes and failures (Stoecker, 2005, p. 98). Information about an organisation and its activities must therefore be collected from individuals that have experience with the organisation. This part of the survey asks respondents to give

their opinion on volunteer recruitment, fundraising strategies and service offering. For example, a threat from the external environment might include a competitive fundraising landscape or shrinking endowments and/or donations.

Variables of the theoretical framework were also incorporated. Questions were developed around the four orders of design so to connect the survey to the theoretical framework. Areas investigated include communication design, industrial design, human-centered design and design thinking. The four orders were briefly described, including an example of each, and then participants were asked to provide feedback about the activity in each area. They were also asked to rank the four orders to indicate in which area they have the greatest need.

An exhaustive list of creative services was developed. Participants were asked to specify which creative service they currently utilise and whether or not they need help with it. The purpose of this rating activity was to determine the degree of need around specific creative services, ranging from logo design to website maintenance.

Topics that required specific responses were formulated to be open-ended questions. For example, what is your organisation's mission? Or, please briefly describe the services that you offer. Open-ended questions were only utilised when necessary, so to reduce time spent analysing qualitative results.

4.3.4. Building the online survey

The needs assessment was built in Survey Monkey, the same online tool that was utilised for the educator survey. The first screen provided information about the study

and made the participant click a 'Next' button to advance to a page where they were required to give consent to participate. The consent page contained one question: Do you consent to complete the online survey? Participants could only proceed if they answered 'Yes' to that question. From that point forward, questions were grouped into categories.

The first category was intended to capture background information about participants and their organisation, including their role and current status with the organisation. This section also included questions about community outreach, volunteers, fundraising, strategic planning, budgeting and marketing. All but one of these questions were multiple-choice. Participants were given a comment box to explain the organisation's mission.

The next section got into the four orders of design. After briefly explaining each order, multiple-choice questions required participants to assess their organisation's current use of design and their level of satisfaction with each. The degree of need was also assessed. For instance, sixteen specific examples of communication design were listed alphabetically. For each, participants were asked to indicate one of the following—don't need help with, need a little bit of help with, or need a lot of help with. The first three orders followed this same format, but the fourth order of design demanded a different approach.

Since design thinking is considerate of the contextual factors that affect an organisation, this subsection needed to inquire about about the complex problems that organisations deal with. Thus, the following question was posed: What is the most difficult issue that your organisation faces in each of the following contexts?

- Social (e.g. lifestyle trends, demographics, consumer attitudes, ethic/religious factors, etc.)

- Technological (e.g. access to/cost of information and communications technology)

- Economic (e.g. competitive market, interests rates, taxation issues)

- Environmental (e.g. climate change, sustainability)

- Political (e.g. current/future legislation, government policies, funding, grants)

After briefly explaining these challenges, participants were asked to assess the current approach that their organisation is taking to deal with them.

The third section of the survey was about working with design students. There were questions about previous experience with students (if any), interest in and concerns about working with students, and communication preferences. All but two of these questions were in a multiple-choice format. One question asked participants to indicate how involved design students could be in the following areas if they worked with their organisation:

- Developing empathy with stakeholders

- Learning about contextual forces that shape a project

- Solving communication problems

- Working on a project early on, during the planning phase

- Engaging in systems-level thinking

- Working with multi-disciplinary teams

- Using a variety of tools and technologies

- Practicing ethically

- Building arguments for proposed solutions

For each area, they could choose between never, rarely, sometimes or always.

The other question that broke the multiple-choice format asked participants to explain the sort of benefits, if any, that they would anticipate from working with design students. This was intentionally posed in an open-ended format so not to influence results.

4.3.5. Pre-testing the survey

The researcher completed the survey and generated a 'PDF summary of results' to ensure that the responses would be easy to analyse. The results from two questions were difficult to understand, thus the format of those questions was changed. The supervisory team also clicked through the online survey and provided the researcher with feedback. These responses were cleared from Survey Monkey before pilot testing.

4.3.6. Pilot testing the online survey

The survey was administered with a high school principal as a way to test the instrument. The testing session was performed in his office, so that he could open the survey on his work computer. The researcher explained the purpose of the needs assessment and obtained consent from the participant. He was asked to answer the questions online and indicate any problem areas on a printed copy of the survey. He then proceeded to complete the survey without interruption from the researcher, and the session was timed. After answering the questions, the researcher discussed the

experience with him. Even though there were 50 questions, he felt like they were easy to answer. He had suggestions for additional answer options on three questions and was confused by the 'design thinking' section. That part of the survey was revised and other feedback was incorporated before distributing. The needs assessment used during this session can be found as Appendix C.

4.3.7. Data collection

The researcher identified distribution channels in Australia, the United Kingdom and the United States. The groups below are either a source of information for or provide support services to nonprofit organisations, including community, voluntary and charitable organisations. They were asked to distribute the survey link. When requested, the researcher agreed to share a summary of the results.

In Australia:

- Office for the Not-for-Profit Sector
- The National Compact
- ProBono Australia

In the United States:

- Nonprofit Quarterly
- The Chronicle of Philanthropy
- The Nonprofit Times
- GuideStar

In the United Kingdom:

- Society Guardian

- National Council for Voluntary Organisations

- KnowHow NonProfit

The following contact letter, sent via email, explained a) the purpose of the research study, b) the need to gather feedback from nonprofit organisations, and c) a few ways they could distribute the survey link.

> As part of an international research study about service-learning in design education, I am investigating how undergraduate design students and nonprofit organisations can form mutually beneficial partnerships that positively impact the community. As a way to better understand the design-related needs of our local communities, I have developed an online survey for nonprofit organisations to complete.
>
> I hoped there might be a way you could share this survey link with nonprofit organisations so that those who would benefit from a university-community partnership could consider providing their feedback.
>
> I would greatly appreciate it if you could share the link below via email, twitter, facebook or on your website:
>
> https://www.surveymonkey.com/s/designneeds

The social media platform Twitter was also used as a distribution channel. Variations of the tweet below were sent to the aforementioned organisations, asking them to retweet or share the link with their followers.

> What #design needs do #nonprofits have & how can uni students help? http://surveymonkey.com/s/designneeds Pls RT #phdresearch #servicelearning

Of the 40 people who consented to participate, only 26 actually started the survey. While it is not possible to calculate a response rate for the needs assessment since it wasn't distributed to an email database, rather through distribution channels, the number of participants was lower than anticipated. Several factors contributed to this. Only ten of the twenty-nine channels contacted agreed to distribute the link. A few contacts that did not agree to participate replied to the invitation and explained that, due to the large volume of requests of this nature, they stopped forwarding links to their database so not to bombard members with emails. Of the participating channels, several agreed to include it in their e-newsletter or share it via social media. One resource, ProBono Australia, wanted to communicate the opportunity with their readers in the form of an online article. After an email interview, their editor drafted a press release and posted the story on their Web site.

4.4 Analysis approach for the survey data

The survey results were exported and carefully analysed. Survey Monkey generated a PDF report of summary data for each survey, which included response counts and percentages, as well as a Microsoft Excel file of individual responses.

Since the educator survey was administered with a country-specific approach, Survey Monkey exported three different reports—one for Australia, one for the USA and one for the UK. Even though the survey was administered in three batches, the results were not analysed separately. Differences between countries are noted in chapter five, but the entire data set was analysed to keep in line with the purpose of the survey—to be a broad scan of the current situation.

The data for closed-ended questions was displayed in the form of charts and data tables depending on the question type. Pie charts were used for questions with a single answer choice allowed. Horizontal and vertical bar graphs and stacked bar graphs were used for a variety of questions. Data tables were used to show response percentages to rating scales that required a response to multiple stimuli and matrix questions. The average rating was indicated on these tables with a bold label.

Individual responses to open-ended questions were saved and reviewed in Microsoft Excel spreadsheets and then exhaustively coded. Coding was used to reduce data. Open coding involved examining responses, comparing and categorising data (Punch, 2009). After analysing the text, categories were developed to identify themes.

4.5. Summary

This chapter explained the development of two surveys—one with design educators and one with nonprofit organisations. The process of data collection and the approach to data analysis were also discussed. The results of both surveys are examined in chapter five.

Chapter 5. Phase one: Research results

5.1 Results of the online survey with design educators

The results of the online survey with design educators are discussed in this section. Section 5.2 discusses the results of the needs assessment with nonprofit organisations.

5.1.1. Background information about participants

Respondents to the educator survey teach in undergraduate and graduate design-related programs in the Australia, United States of America (USA) and the United Kingdom (UK). With regards to rank, there was quite a spread: 26.7% of respondents were Lecturers, 17.1% were Associate Professors, 17.1% were Senior Lecturers, 13.3% were Professors, 8.6% were Assistant Professors, and 3.8% were Instructors. Only one respondent was a tutor. Thirteen respondents specified a title other than the ones listed above, including two Adjuncts, two Associate Lecturers, a part-time Lecturer, Convenor, Distinguished Professor, Dean, Associate Dean, Visiting Assistant Professor, Professor Emeritus, Researcher, Senior Critic.

More respondents had a master's degree than any other degree type. It was the highest degree obtained by 61.9% of respondents. A bachelor's degree was the highest degree obtained by 13.3% of respondents, while 21.9% of respondents have earned their doctorate. Only 2.9% of respondents indicated other qualification, which included Honours, Certificate and Diploma.

With regards to employment status, the majority of respondents (77.1%) were full-time employees of a tertiary institution. The remainder were part-time, contract, sessional and adjunct.

Respondents had significant teaching experience and professional experience. In fact, 93.3% indicated that they have experience in the creative industry, which ranged from 4 to 35 years. 37.1% of respondents have been teaching for 11 to 20 years, 25.7% have been teaching for 6 to 10 years, and 25.7% of respondents have been teaching over 20 years. 4.8% of respondents have been teaching 3 to 5 years, while 6.7% of respondents have been teaching for 1 to 2 years.

Most respondents teach in either a school of design (60.3%) or an art department (24.8%). A small number of respondents teach in a Communication (5.0%), IT (2.5%), or Art and Design (2.5%). The remainder (less than 1.0%) teach in Business, Education, Applied Technologies, Agriculture, Architecture/Urban Planning and Law.
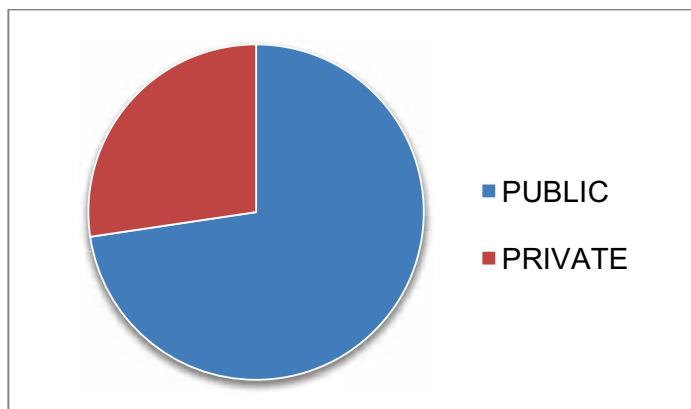
Figure 5.1. The type of institutions where respondents teach

Regarding public versus private, 73.3% of respondents teach in a public institution and 27.6% of respondents teach in a private institution. Of the respondents that teach

in a private institution, the majority (86.2%) was from the United States. Only six respondents specified that they teach at a liberal arts school. Three respondents indicated that they teach at a community college. Two respondents teach at a technical school.

The visual in Figure 5.1 represents the overall result, but answers to this question were quite different across the three countries. In the United States, there were almost as many respondents from private schools (48.1%) as public (51.9%), whereas in Australia and the UK, the majority of respondents were from public universities. 97.5% of Australian respondents were from public institutions and 84.6% of the UK respondents were from public institutions.

More respondents teach at tertiary institutions with a large enrollment than institutions with a small enrollment. 37.1% of respondents teach at a school with more than 20,000 students. 27.6% of respondents teach at a school with 10,000 to 19,999 students. 19.0% of respondents teach at a school with 5,000 to 9,999 students. 16.2% of respondents teach at a school with an enrollment of up to 4,999 students.

There's a slight correlation between school enrollment and population. Nearly half of the respondents (47.6%) teach in a large community that has a population over 750,000. 21.9% of respondents teach at a school that's located in a midsized community with a population of 250,000 to 750,000. 30.5% of respondents teach at a school that's located in a small community with a population less than 250,000.

Most of the respondents (83.8%) teach in a bachelor's degree program. Nearly two thirds (61.0%) also teach in a master's program. 21.9% of respondents teach in a

doctoral program. 7.6% teach in a diploma or certificate program. 3.8% teach in an associates program.

Figure 5.2 indicates the level of the undergraduate students that respondents teach. In Australia, respondents reported mostly teaching third year students (77.5%), followed by second year students (67.5%), then first years (57.5%), and finally fourth years (50.0%). In the UK, respondents mostly teach second and third year students (tied at 92.3% each), followed by first year students (69.2%), and finally fourth year students (61.5%). In the USA, respondents teach more fourth year students (69.2%) than third year (65.4%), second year (55.8%) or first year (30.8%).
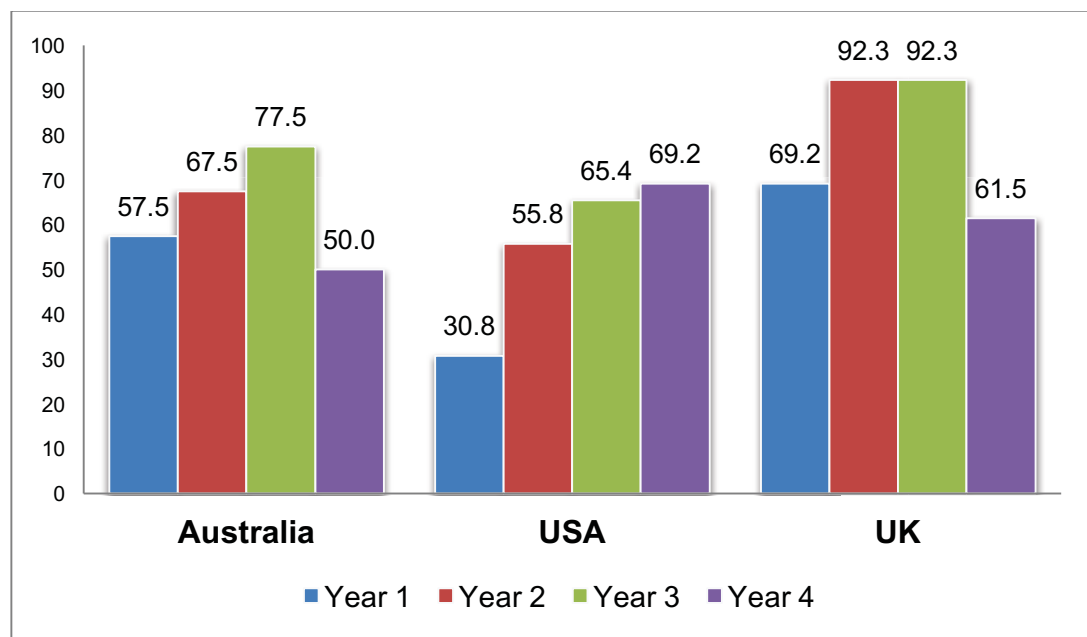
Figure 5.2. Undergraduate levels at which respondents teach

The researcher expected that responses would vary based on international differences in higher education. In the United States, bachelor degree programs are structured to last four years, with the first two years typically comprised of art foundations subjects (which are pre-requisites to graphic design courses). It is more common to have three-

year degree programs in Australia and the UK, with an additional year regarded as honours.

The top subject areas in which respondents teach don't necessarily correspond with the most common types of service-learning (SL) projects being offered. The lists below compare design subjects with SL projects:

Design subjects taught

1. Graphic/media design - 59.0%
2. Visual communication - 38.1%
3. Information design - 35.2%
4. Interactive design - 31.4%
5. Communication - 21.9%
6. Illustration - 18.1%
7. Web design - 17.1%
8. Industrial design - 17.1%
9. Service design - 16.2%
10. Advertising - 15.2%
11. Animation/motion design - 15.2%

Types of service-learning projects

1. Logo/identity system - 64.6%
2. Material for an event - 64.6%
3. Print collateral - 58.5%
4. Information design - 53.8%
5. Advertising campaign - 47.7%
6. Web design - 41.5%
7. Design for mobile - 35.4%
8. Film/animation/video - 35.4%
9. Publication design - 33.8%
10. Magazine/newspaper ads - 30.8%

For example, only 15.2% of respondents teach Advertising, but 47.7% of service-learning projects involve developing advertising campaigns. Only 17.1% teach web design, but 41.5% of SL projects involve web design. Only 15.2% teach animation/motion design, but 35.4% of SL projects involve film/ animation/video.

The majority of respondents (74.3%) reported that, when they were a student, they participated in real-world projects. 53.6% of respondents participated in work-integrated learning initiatives (e.g. work placements, internships) as a student. 48.5% of respondents participated in community-based projects when they were a student. 23.0% of respondents reported participating in service-learning when they were a student. One can assume that this experience factored into their decision to practice SL, but their motivations need to be better understood.

5.1.2. Findings about service-learning in general

Over half of respondents (57.8%) reported that they have on-campus support for service-learning, and 21.6% said they do not have on-campus support. 21.6% responded that they "don't know" if they have on-campus support. This may be due to the fact that not all of the respondents practice SL.

Responses to this question did vary from country to country. For example, 69.2% of respondents in the USA said yes, 48.7% of Australian educators said yes, and 36.4% from the UK said yes. A claim can be made that there is more on-campus support for SL in the United States than in Australia or the United Kingdom.
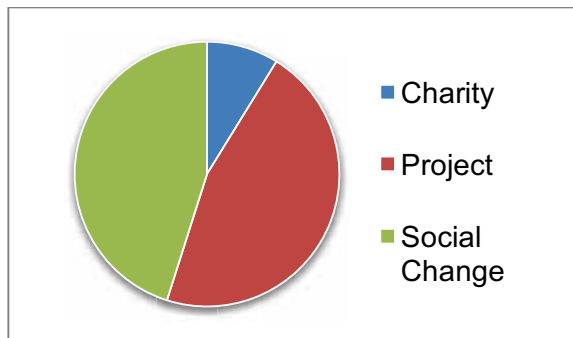
Figure 5.3. How educators regard service-learning

Educators reported having more of a project or social change mindset than a charity mindset (Figure 5.3). Only 8.8% of respondents feel that service-learning is a "charity" whereby students are like "volunteers". Whereas 46.1% have a "project" mindset, seeing students as "citizens", and 45.1% view SL as a form of "social change" where students are like "activists".

A cultural difference worth noting is that in Australia, the majority of educators (59.0%) have a project mindset, whereas the most popular view in the USA (48.1%) and the UK (63.6%) is that of social change.

Experience with service-learning at the undergraduate level:

Overall, two thirds (66.7%) of design educators have incorporated service-learning at the undergraduate level. Of the 69 respondents who did have experience with SL at the undergraduate level, 30.4% have been practicing for 3 to 5 years, 24.6% for 6 to 10 years, 23.3% for 11 to 20 years, followed by 13.0% for 1 to 2 years. Only 5.8% had less than one year of experience, and only 4.3% had more than twenty years of experience.
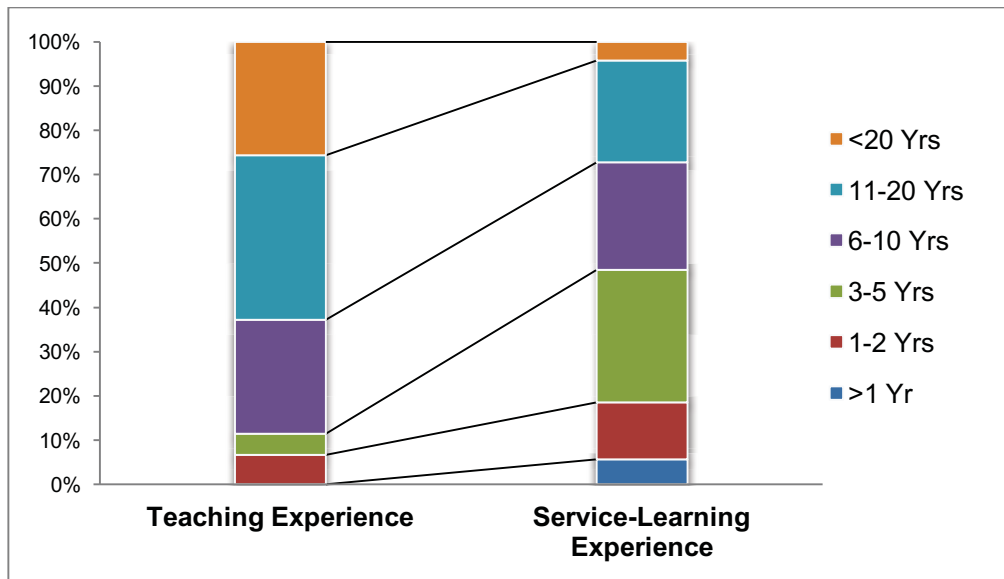
Figure 5.4. A comparison of teaching experience with service-learning experience

There appears to be a correlation between teaching experience and service-learning experience as shown in Figure 5.4, except that 25.7% of respondents had more than 20 years of teaching experience, while only 4.3% had 20 plus years of experience with SL. It is also worth noting that nearly half of the respondents (49.3%) have less than five years of experience. Over one fourth of the respondents (27.5%) have more than a decade of experience with SL, however none of the more experienced practitioners were from the UK.

Of the 69 respondents who did have experience with undergraduate service-learning, 23.2% have coordinated 1 to 2 projects, 23.2% have coordinated 3 to 5 projects, 17.4% have coordinated 6 to 10 projects. 18.8% have coordinated 11 to 20 projects, and 18.8% have coordinated more than 20 projects.

Responses to this question are quite similar to the previous question in that nearly half of the respondents (46.4%) have experience with up to five projects. While 37.6%

have offered more than ten service-learning projects, none of these educators were from the UK.

Regarding the subject level(s) at which educators have incorporated service-learning, responses were analysed by country since most bachelor's degree programs in the UK and Australia are three-year programs and most bachelor's degree programs in the USA are four-year programs.
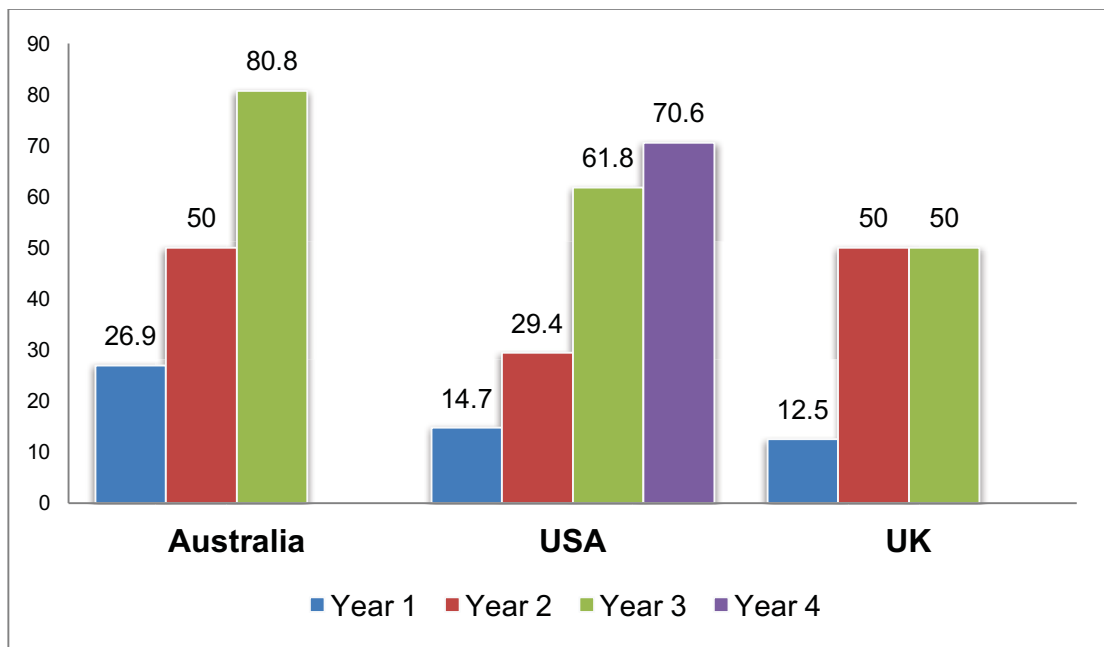
Figure 5.5. Service-learning and subject levels in design education

By comparing Figure 5.2 and Figure 5.5, one can observe that, while educators in the UK and Australia teach fourth-year students (honours), they do not incorporate SL at this level. Aside from that, service-learning opportunities do increase for students as they progress through the curriculum (Figure 5.5). In Australia, SL projects are incorporated into 80.8% of third-year subjects, 50.0% of second-year subjects, and 26.9% of first-year subjects. In the UK, service-learning projects are incorporated into 50.0% of third-year subjects, 50.0% of second-year subjects, and 12.5% of first-year

subjects. In the US, service-learning projects are incorporated into 70.6% of fourth-year subjects, 61.8% of third-year subjects, 29.4% of second-year subjects, and only 14.7% of first-year subjects.

This finding is in line with the study's research hypothesis that, due to the complex nature of service-learning projects, more of them are offered in upper-level subjects than lower-level subjects. Evidence is still needed to explain why this is the case.

Respondents that do not practice service-learning:

Thirty-four respondents indicated that they choose not to incorporate service-learning into their classes. The main reason why they do not incorporate SL is the perception that it is "too difficult to coordinate". The second reason is that it is "not appropriate" for their subjects. The third reason is that the educator doesn't teach at the undergraduate level. Other reasons cited include lack of control over curriculum, lack of awareness, a concern that low student numbers would prevent a meaningful engagement, and a worry that students would feel left out if they were not interested in the specific design need that the community partner had.

Experience at the postgraduate level:

Approximately two thirds (62.7%) of respondents have *not* incorporated service-learning into a postgraduate class, leaving 37.3% that have. The majority of respondents with experience at the postgraduate level (86.8%) have coordinated 10 or fewer projects.

The main reason why nonpractitioners do not incorporate service-learning at the postgraduate level is that 47.6% do not teach postgraduate classes. The second reason is that it is "not appropriate" for their subjects (15.9%). The third reason is that it is perceived to be "too difficult to coordinate" (12.7%). Reasons that SL is perceived to not be appropriate at the postgraduate level relate to degree structure, class size, conflicting interests and timing. In Australia, most masters programs are research degrees; there is no coursework. Consequently, if a student's research topic is not related to service-learning then it would not be appropriate for a supervisor to encourage this practice. In the US, most professional masters degrees are two-year programs, with one year of coursework followed by one year of research. Comments by American educators spoke to small class sizes as a reason for not incorporating SL. It was also suggested that community needs do not easily align with the specific topics studied at the postgraduate level, like advanced typography. A few respondents from the UK said their postgraduate degree programs are relatively new, so they haven't yet had the opportunity to incorporate SL, but hope to in the future.

5.1.3. Findings about service-learning in particular

The following section asked more specific questions about an educator's experience with service-learning. Respondents had the option to skip this section. Of the 102 respondents, 69 agreed to continue on to the next section, while 33 opted to be redirected to the end of the survey.

When asked about reasons for doing service-learning, 76.1% of educators responded

that the "most important" reason they undertake SL is because "the students benefit

from it." The second reason is that "the community needs it," followed by "personal

interest." Responses to the option "My school encourages it" were very diluted across

the five-point scale.
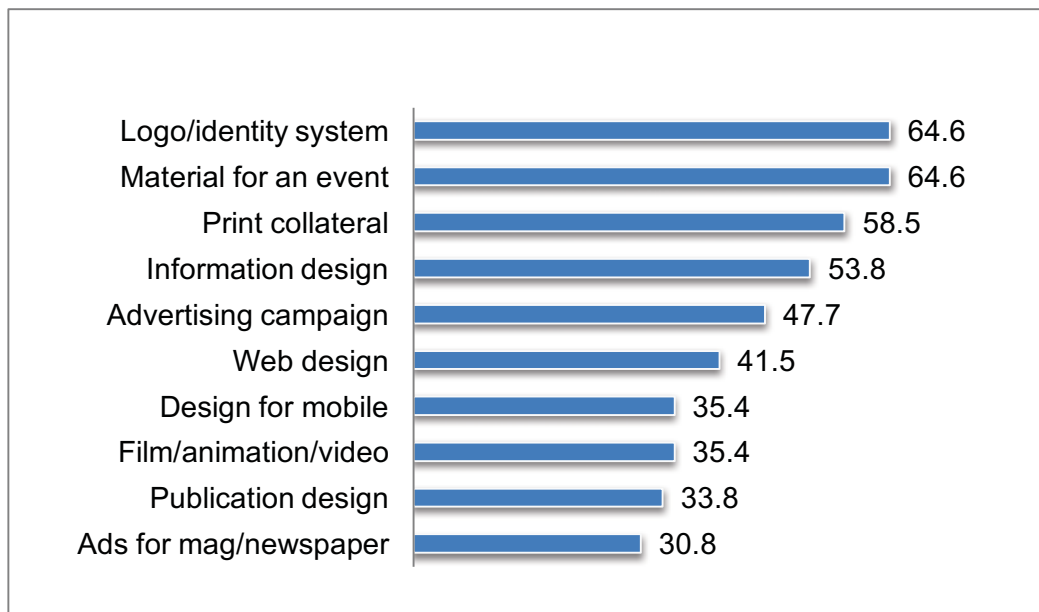
Figure 5.6. The most common design-related service-learning projects

As shown in Figure 5.6, the two most common service-learning projects in design

subjects involve the creation of a logo/visual identity system and material for an

event, like invitations or a poster. The second most common project is the design of

print collateral (e.g. sales brochure, catalogue, direct mail postcards). The third most

common project involves information design (e.g. infographic, annual report,

instructional manual), and the fourth most common SL project was the creation of an

advertising campaign.

Overall, the least common service-learning projects were strategic planning/ management consulting, offered by only 23.1% of respondents, the creation of interactive content, like DVDs and games (26.2%) and product design (27.7%).

Learning that the design of logos and event material are the most common service-learning projects raised several questions. First of all, why is that the case? How do educators work with partners to determine project scope and deliverables? Are these the two areas where community organisations have the most need? As discussed previously, the two main purposes of communication in nonprofit branding are to build awareness of volunteer opportunities and to increase donations during fundraising campaigns. In section 5.3, these results are compared to the results of the needs assessment to see how well they correlate.

When asked about preferences for how students work during service-learning, participants had a strong preference for students to work both individually and in groups (63.6%). The second preference is to work only in groups (31.8%). Only a handful of respondents (4.5%) prefer that students work individually. Thirty respondents briefly explained the reason for this. Their responses were coded, and the following themes emerged (Green = inside-out; Red = outside-in):

- Reasons to have students work individually:
  - To present more options to the client.
- Reasons to have students work in groups:
  - To emulate "real-world" work environments and develop industry skills.
  - To create a nurturing environment whereby students encourage, support and advise one another.

- Collaborating and developing concepts as a group results in stronger outcomes.

- Reasons to have students work both individually and in groups:

  - To give students the freedom to work how they want to, either individually or in groups, depending on the level of confidence they have in their skills.

  - To develop project management skills, including an understanding of roles and responsibilities, deadlines, process work (i.e. proofing) and interpersonal communication.

  - As a knowledge management strategy – to either research as a group and then individually solve problems, or to research individually and then present synthesised findings as a group.

  - To manage the complexity of large projects.

  - It depends on the nature of the project. For example, a logo design project would be more appropriate for individuals, whereas website design and development might demand more of a team approach.

  - It depends on the level of students. A few preferred to have final-year students work individually.

  - To develop a culture of accountability and collaboration. Teamwork provides experience with collaboration, while individual work ensures accountability.

With a strong preference for a combination of individual and group work, and insight into reasons for that, the researcher must now understand *how* educators can orchestrate projects that involve individual responsibility within a group project.

When asked if students ever collaborate with students from other subjects on service-learning projects, 54.7% of respondents answered "Yes", while 46.9% answered "No". Design students have collaborated with the following disciplines during SL (listed in alphabetical order): Architecture, Art, Art Education, Biology, Business, Education, Engineering, Environmental Science, Forensic Science, Industrial Design, Information Technology, Journalism, Landscape Architecture, Marketing, Medicine, Photography, Product Design and Video. Thirty-five of the respondents briefly explained why they either have or have not collaborated with other disciplines. After coding those responses, the following themes emerged:

- Reasons why educators have students collaborate with students from other subjects or disciplines include:
    - Found a like-minded academic that realised the benefit for students.
    - To expose students to different perspectives.
    - To develop communication skills and the ability to negotiate differences.
    - To benefit the project. On an as-needed basis, depending on the area(s) of expertise required.
- Reasons why students do not collaborate with students from other subjects:
    - Have not had the opportunity.
    - Too difficult to initiate and align teaching schedules with other faculty.
    - Too difficult to establish learning objectives and determine an assessment protocol.
    - Too time consuming.
    - Lack of support for collaboration outside the school.
    - Because other disciplines have a narrow view of design.

Many of the reasons cited to work with other disciplines relate to student learning outcomes more than community needs. There is an argument that the decision to collaborate with other disciplines should be based on the particular needs of an organisation and how the university's assets can best be used. While that approach sounds good in theory, it is unfortunately easier said than done.

There was an emergent theme regarding the types of community partners. Of the geographic categories (local, regional, national and international) and different types of partners (nonprofit, community groups, on-campus, SMEs and large organisations), the majority of service-learning partnerships were with local, nonprofit organisations. 95.5% of respondents had partnered with local organisations. This percentage decreased as the distance from the tertiary institution increased. 66.7% had partnered with regional organisations. 43.9% had partnered with national organisations. And only 30.3% had partnered with international organisations. Of the other categories, 84.8% of partners were not-for-profit organisations, 68.2% were community groups, 47.0% were on-campus organisations, 27.2% were SMEs, and 25.8% were large organisations. Also mentioned were museums, hospitals and school systems.

The low number of SMEs is in line with other community-focused research that focused on "small- to medium-sized nongovernmental organisations" (defined roughly as those with less than a $1 million annual budget and/or twelve or fewer full-time staff). These organisations can't afford to "waste" their resources on service-learning that's not useful (Stoecker, 2009). While they have a lot to gain, because the SL initiative can dramatically affect the organisation's capacity, they don't have the time to work with students.

The popularity of SL partnerships with local nonprofits raised a few questions. Why do educators partner locally? How do educators learn about the design needs in the local community? How are these local partnerships formed? Should design students be working on more international projects? If so, how does international service-learning work in design?

Successful service-learning projects:

For the following questions, participants were asked to consider one of their most successful service-learning projects. Most of the projects were with a community partner determined by the teacher and with upper-level students in a small class. 60.9% of respondents specified a class size of 1 to 19 students, and 21.9% had 20 to 39 students. So 82.8% of respondents chose a project with a class size of less than 40 students. The largest class size reported in the United States had 60 students, compared to 80 in the UK. Why does SL drop off when the class size is over 20 students? How is SL affected by higher enrollments (over 40 students)? How do educators manage SL projects with a large number of students? Does having more students translate to more service, less or the same?

More than half of the successful projects (59.4%) were done in upper-level subjects, either third or fourth year. Only three respondents discussed a project from a first-year subject. Eleven respondents chose a postgraduate-level project to discuss in more detail. Why are the majority of successful SL projects in upper-level classes? Is it because the lower-levels are still concentrating on technical skill development? Is it

because educators think that upper-level students are more prepared to manage complex projects?

Planning the service-learning project:

Nearly half (48.4%) of the respondents spent 1 to 5 weeks planning the service-learning project. 16.1% spend 6 to 10 weeks and 16.1% spend 11 to 15 weeks. 8.0% of respondents spend less than one week planning a SL project. Only 4.8% spend two semesters planning. No one indicated that they spend more than one academic year on planning, but one response specified an on-going, two-year long engagement. "Other" responses indicated that it depends on the client, that you can plan as the project happens, and that a long-standing process has been in place.

Finding a community partner:

In 51 of the 64 projects discussed, the students were assigned to a partner.
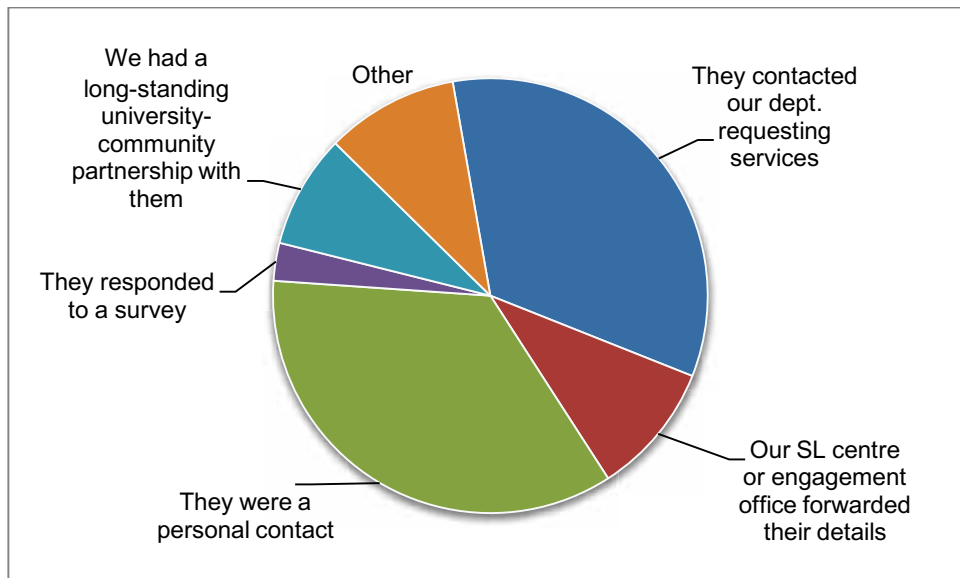
Figure 5.7. How educators formed partnerships

Figure 5.7 displays the different ways that educators find community partners.
According to these results, relationships are usually formed because the partner is a
"personal contact" (50%) or someone that "contacted our school or department with a
request for services" (48%). It was surprising that only 14% of educators got
connected to the community partner through their service-learning centre. Twelve
percent of respondents reported long-standing relationships between the institution
and the community partner. Only 4% of partnerships formed as a result of a survey.

In only nine of the projects did the students get to choose the community partner. If
students had to identify the partner, then it was an individual decision the majority of
the time (7 out of 9) as opposed to a group decision.

Five respondents specified "Other" and described three additional approaches:

1. The teaching staff take initiative to contact a prospective community partner.

2. The students and the teaching staff work together to identify community needs.

3. They are responding to a client brief via a competition.

Point of contact:

When the educator facilitated communication, 39.6% of the time they were dealing with an Administrative Staff Member, 25% dealt directly with the Owner/CEO/President, and only 10.4% communicated with a Marketing Manager or equivalent. Twelve respondents specified a different point of contact, including Curator, Community Leader, Director, Government Official, Group Advocate, Education Liaison, and Faculty Member. One respondent indicated that the main point of contact "Varied".

Teaching staff deal more with administrative staff than executive-level management or marketing professionals. Does a bottom-up approach limit design from being involved more on a strategic level and thus potentially have more value? Does this mean design is not supported from the top-down? Do administrative staff members have the authority to give final approval of designs? Are they the stakeholders? Does the person's role affect the project's success? Is a higher ranked contact more or less likely to lead to a successful outcome?

Nature of the projects:

The projects were quite diverse in nature. Qualitative analysis of this open-ended question resulted in the following design objectives:

- To inform or build awareness of
- To educate
- To persuade to take action
- To entertain or delight
- To improve an experience

Community partners included international, national, regional and local nonprofits, art galleries, museums, schools, shelters, camps, social events, revitalisation efforts, performing arts initiatives, awards shows, and a variety of community organisations.

Outcomes were both low-tech and high-tech, 2D and 3D, across all orders of design.

- First Order: Logo, branding, mailers, newspaper advertisements, ad campaigns, cook book, signage, annual report, membership communication, intergenerational communication, communication audit, event promotion, poster, newspaper layout, package design
- Second Order: product design, sustainable design, furniture design, stage design, assistive products, golf course design
- Third Order: animation, interactive exhibition, website, service innovation
- Fourth Order: System development, community asset maps, landscape architecture, space planning

Length of service-learning engagement:

Over one third (39.0%) of respondents indicated that students are involved in service-learning projects for 11 to 15 weeks. Approximately one fourth (25.4%) of respondents indicated student involvement for 6 to 10 weeks, followed by 18.6% reporting student involvement for 1 to 5 weeks, and 13.6% claiming student involvement for two semesters. Only 1.7% answered that students are involved for less than a week, and 1.7% answered that students are involved for more than one academic year.

Classroom dynamic:

Only 16.4% of respondents reported that the classroom dynamic is more competitive than collaborative. Overall, there is a split preference between "collaboration" (42.6%) and "a mix of collaboration and healthy competition" (42.6%). However, the overall results to this question don't accurately reflect the preferences. In the US, there is an obvious preference for "collaboration" (64.5%), while in Australia and the UK there is an obvious preference for "a mix of collaboration and healthy competition" (69.3%). Why do educators in the USA prefer collaboration over healthy competition? Is a bit of competition healthy or damaging to the overall service-learning experience?

Assessment:

How is service-learning assessed in design education? In addition to the educators being involved with assessment (82.0%), the community partner also participates 60.7% of the time, followed by other teaching staff (39.3%) and finally, peer assessment by other students (32.8%). Partners and peers were *more* involved with assessment in the United States than in Australia or the UK. Whereas, other teaching staff were *less* involved with assessment in the USA than in Australia or the UK.

Most educators use more than one method of assessment. In addition to grading the designed outcomes, other forms of assessment mentioned include using the results of a competition, self-assessment by the student and assessment by committee. One respondent indicated that the project was *not* assessed.

What should service-learning projects be graded on? Are the rubrics for SL projects any different than the rubrics for other design projects? Are students graded on how appropriate, helpful or meaningful the outcomes are for the community partner? What do students care about more – their letter grade, pleasing the client, making a difference in the community, winning the competition, etc.?

Reflection:

More than half of respondents (55.0%) did require and assess reflection on SLIDE. Of the respondents that did not require reflection, 82.1% encouraged it. When reflection was part of the assignment, writing in journals, blogs, etc. was the most preferred activity, followed by discussion and debriefing after client meetings. The third most

preferred method was reflection on doing, or putting theory into practice. Reading

assigned chapters or articles was rarely used for reflection. A difference worth noting

is that writing was the most popular form of reflection in Australia and the UK, but

conversation was the most popular form of reflection in the US.

Why do educators encourage reflection? How do educators facilitate reflective

conversations – during a project or just after, as evaluative debriefing sessions? Are

there concerns for privacy or client confidentiality when allowing students to author

blog posts about a project?

Partner involvement:

Most of the time (82.0%) partner feedback is gathered. Only 18.0% of respondents do

not gather feedback from the partner. Only 5.0% of respondents described partners

that were "not involved" with the projects. Most partners are either "actively

involved" (48.3%) or "somewhat involved" (46.7%) with service-learning projects.

While the last two categories mentioned appear to be overall quite similar, partner

engagement does differ slightly between countries. In the United States, there are

more actively involved partners than somewhat involved. In Australian and the UK,

there are more partners somewhat involved than actively involved.

Approximately two thirds of the time (62.3%) students are rewarded by the partner in

some way. In the comments section, 34 respondents specified a variety of ways that

partners have shown their appreciation. The following categories were derived from

those responses:

- Events to celebrate project completion, including food and drink

- Industry contacts leading to job referrals, freelance opportunities or internships, during which students would execute the concepts

- Public acknowledgement, often in the form of press releases and news stories

- A written letter of thanks from the partner

- The partner choosing to use a student's work, with a credit line to the designer

- Financial reward in the form of money, gift certificates and show tickets

- Individual awards given in class for specialised efforts

There was a mix of feedback with regards to whether or not this affected student participation. Several educators commented that students were intrinsically motivated, driven, and passionate. "The thanks at the end was a bonus, not a carrot."

This finding raised an important question: Is it legal for students to be compensated for work done during service-learning? Does the type of SL affect this (e.g. class project versus internship)? Most universities allow students to have either paid or unpaid internships (Furco, 1996).

One comment really stood out. Someone noted that, "There was a danger that the student could be led by needs of the client rather than the learning objectives of the module." How should you proceed with a project if, as the person managing the relationship, you realise the partner's needs and the learning objectives don't align?

Wrapping up a project:

Over half of the student designs (54.1%) did get used by the partner. That number was lower than expected. Nearly one third (29.5%) of respondents did not report the partner's decision. Some commented that they didn't know or that the partner had not yet made a decision. That leaves 16.4% of student-generated designs that definitely did not get used by the partner. Some of the reasons that projects fall through include:

• Partners are slow to give feedback/changes, so the students have moved on to another project or the semester has ended.

• There's no budget for printing or web hosting.

• The partners request changes that are difficult to make, like merging elements from different student's designs.

• The point of contact is no longer with the organisation.

• They had someone else complete the design, either a staff member or a professional designer that they hired later.

One participant commented that: "When I first contact a client, I do make it clear that this is a donated service and that they are under no obligation to use the work we have done." Does that attitude affect how partners perceive the work?

If just over half of the designs actually get used by the community partner, then how beneficial is it? If an organisation is in a position to hire a professional designer, either during or after the service-learning project, then why did the organisation partner with the university in the first place, since they could afford a designer? This has happened in one of the researcher's classes before. The reason being, the person who had authority to approve the design wanted to make sure it was of a professional

standard. Technically speaking, students are amateurs, so educators shouldn't take offense at this, but it does leave a sour taste in your mouth. Case study research will explore this unsettling finding.

When wrapping up a project, over half of the time (52.5%) students handed over working files for the partner to use, but 49.2% of the time a student(s) continued working with the partner after the class project was over. Alternatively, it was reported that when the service-learning project was for the community in general, not a specific "client", some students followed through with their ideas on their own time.

Several educators (13.1%) indicated that they continue to work with the partner to finalise the design after the student involvement is over. Some of the projects (16.4%) carried over into another semester.

5.1.4. Benefits associated with service-learning

The benefits have been organised by stakeholder group—design students and community partners.

Benefits for design students:

The majority of respondents found service-learning to be "extremely helpful" in developing the following capabilities in students (in order of perceived helpfulness):

1. Understanding the contextual forces that shape a project (81.8%)

2. Developing empathy with stakeholders, such as clients, customers, end-users or community members (73.2%)

3. Solving communication problems (63.0%)

4. Practicing ethically (51.9%)

5. Working in multi-disciplinary teams (49.0%)

6. Being involved upstream as a problem finder (48.1%)

7. Building arguments for proposed solutions (45.5%)

8. Using a variety of tools and techniques (38.9%)

9. Engaging in systems-level thinking (37.0%)

Several areas were found to *only* be helpful (i.e. they did not receive a single negative rating). Those include: developing empathy, understanding contextual forces, solving communication problems, and practicing ethically. Why do educators believe these areas are most helpful?

Thirty-seven participants described other benefits observed during or as a result of student participation in service-learning. The text was analysed and categorised. The benefits below appeared more than once and up to seven times. The most common additional benefits are listed first.

- Students gain confidence in their abilities, as well as an understanding of their strengths and weaknesses, and develop a self-reflective capacity.

- Students realise the value of working with other designers who have different skills/strengths in a small group, which develops a community of learners, strong team building and peer collaboration.

- It raises their awareness of designers' value and design's role in solving social problems and helping people. They develop a connection to the community, which could continue after graduation.

- Students are motivated to work on a real-world project.

- They learn about complex problems and needs in the community (e.g. economic and social issues).

- They learn how to ask critical questions to find problems, how to interview people and gather information during the fuzzy, front end.

- It helps them apply theory in practice.

- They get feedback and direction from a different point of view, which helps them understand how clients respond to a design.

- They learn who the stakeholders are and how to inform clients about the value of design.

- It's good training for professional practice and helps them understand what it will be like in the field.

- It broadens their employability, because they have to stretch their skills beyond design (e.g. writing).

- They see partners as potential employers, and thus, the project presents a networking opportunity, which motivates them to do their best.

A few other comments only appeared once, but are worth noting.

- Students collaborate *with* partners as opposed to designing *for* clients.

- Students apply this experience to other subjects and projects.

- Students gain experience with strategic planning.

- When it's a print project, they get a published piece.

- They get to test information with consumers to see what works and doesn't.

- They develop new friendships with students in their group.

- Clients feel listened to and learn about their needs.

94.5% of respondents believe that students do learn from the partner. When asked what they learn, educators reported the following:

- "Communication and negotiation skills," including the ability to appreciate different opinions, personalities, backgrounds and cultures (81.1% of the time).

- "Industry-specific knowledge," including a deep understanding of issues facing their organisation (62.3% of the time).

- "Business and professional skills," including the importance of research and how organisations operate (56.6% of the time).

- "Time management," including how to work in a deadline-oriented environment (54.7% of the time).

Benefits for community partners:

The majority of partners (76.4%) do report benefits associated with participation in a service-learning project. After carefully reviewing the brief explanations of those benefits, the following categories were formed:

- New ways of thinking about the organisation
    - Being challenged on their assumptions
    - Fresh ideas, new knowledge

- Incorporating different perspectives, including a better understanding of young adults

- Financial

  - Receiving design work for free

  - Procure funding

- Having a more professional image

  - Feeling more confident, externally and internally

  - Being impressed by the quality and creativity of student work

- Learning about design

  - Participating as a co-designer

- Mentoring students

  - Helping to develop students is rewarding

  - Students' energy rubs off

- Seeing students give back to the community

- Access to a pool of potential employees

5.1.5. Challenges associated with service-learning

The reported challenges for community partners and design educators are included in this section.

Challenges for community partners:

According to educators, slightly more partners (54.5%) have reported challenges associated with their participation in a service-learning project than not (45.5%). Some of the reported challenges have been:

- Time was an issue in several ways:
    - Trying to align the academic schedule with the community calendar is often a challenge.
    - Receiving timely communication from the school.
    - Having limited time to dedicate to the projects.
- Trying to understand the potential of design and other disciplines.
- Trying to align their objectives with learning objectives.
- Dealing with competitive students and managing personalities.
- Student's lack of experience, professionalism, follow through and attention to detail.
- Having to adjust expectations.
- Wanting to be more involved or engaged.

Challenges for design educators:

82.1% of respondents do feel that offering service-learning projects poses challenges. After carefully reviewing the explanations, the following categories emerged:

- The most common challenge was definitely around how time consuming service-learning projects can be – before, during and after an engagement.

- Developing appropriate assessment formats.

- Dealing with difficult clients.

- Finding appropriate challenges for students. Projects that can be completed during a semester.

- Nurturing the project through difficult times. Mitigating issues. Liability.

- Pressure on the staff member to successfully manage the project. Logistics. Keeping everyone on task.

- Dealing with shifting priorities and deadlines can get messy within the structured, linear academic world.

- Lack of recognition and support from the university.

- Students question the value of the experience before and during the process.

- Changes the position of the educator with their students.

- The responsibility of proofing and finalising designs with the client often falls on the educator.

5.1.6. Future work

Respondents were interested in knowing more about the following (in order):

1. Case studies – examples of service-learning in design (81.3%)

2. How to get funding or support for SL (71.3%)

3. Benefits for students (65%)

4. Benefits for faculty/teaching staff (63.8%)

5. Benefits for the community (62.5%)

6. How to coordinate a SL project (61.3%)

7. How to build sustainable relationships with community partners (61.3%)

8. Benefits for the tertiary institution (37.5%)

9. Other: Evidence so to get university support, impact on student engagement, if schools charge fees for this, copyright issues with using student work, tools and techniques of best practice, including evaluation, assessment and reflection activities, published paper in academic journal.

Fifty-two respondents were interested in participating in further research about service-learning in design education. Seventy-two respondents requested a summary of the results from this survey, which was distributed in November 2012.

5.2 Results of the needs assessment with nonprofit organisations

The main research question for this survey was: What are the design-related needs of nonprofit organisations? The results are organised into four sections: SWOT analysis, design order, working with students, and what organisations feel they would receive and contribute to a partnership.

5.2.1. Background information about participants

Of the 26 participants, 13 were from the United States, 7 were from Australia, and 6 were from the United Kingdom. There were many different types of organisations represented: education/research (7), health (7), human services (4), arts/culture/ humanities (2), environment/animals (2), international (2), public/societal benefit (1)

and mutual/membership benefit (1). No respondents were from

religious organisations.
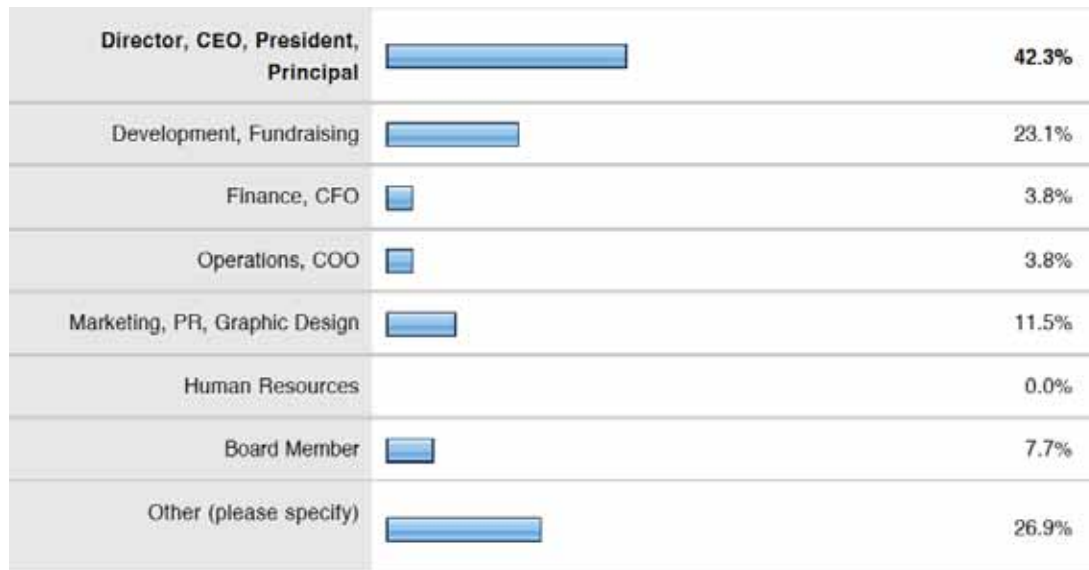
Figure 5.8. Participants' roles at nonprofit organisations

Nineteen of the twenty-six respondents were employed full-time with the

organisation. There were a range of job titles and responsibilities, as shown in Figure

5.8. Nearly half of the respondents (42.3%) were the highest-level executive at their

organisation—either the Director, Chief Executive Officer, President or Principal.

23.1% worked in Development or Fundraising. 11.5% worked in Marketing, Public

Relations or Graphic Design. 7.7% were Board Members. 3.8% were Chief Financial

Officers and 3.8% were Chief Operations Officer. Other reported roles include

Secretaries, Administrative Assistants, Program Directors and Research Assistants.

<u>5.2.2. SWOT analysis</u>

A SWOT analysis was utilised to understand the current strengths, weakness, opportunities and threats facing nonprofit organisations with regards to design. Areas discussed in this section include volunteer recruitment, fundraising strategies and service offering.

Volunteer recruitment:

Word-of-mouth was the most effective way to recruit volunteers. Email, mail and social media were not successful channels at all for volunteer recruitment, even though they were utilised by nearly one third of participants (Figure 5.9). 42.3% of respondents reported having a "sufficient amount of volunteers," and that same percentage (42.3%) reported that, "We need more volunteers."
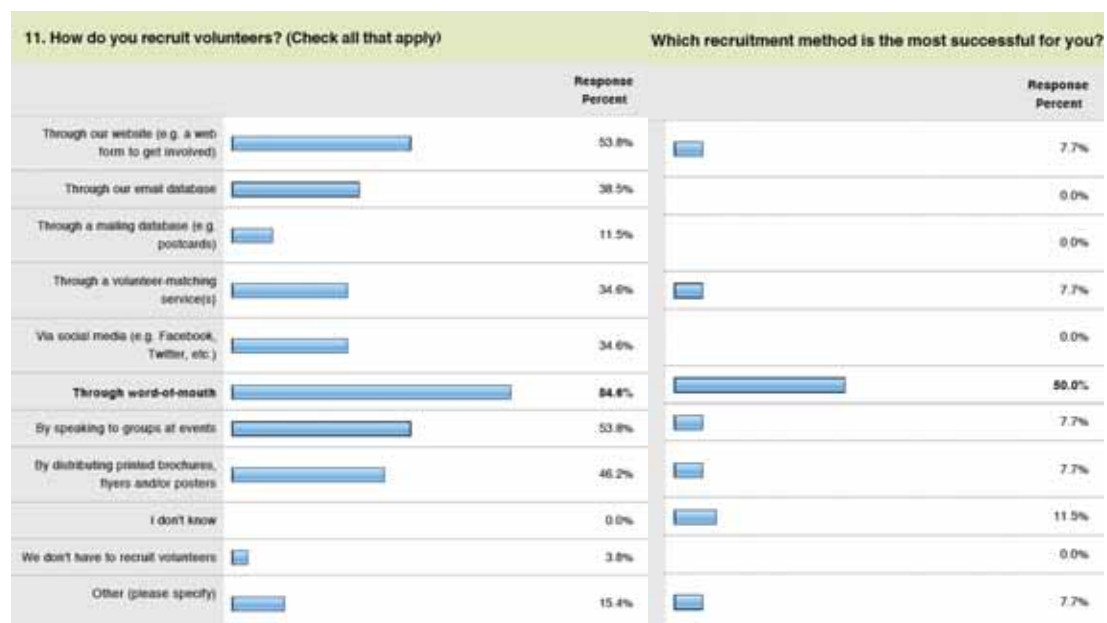
Figure 5.9. Volunteer recruitment strategies versus outcomes at nonprofit organisations

Fundraising:

The majority (84.6%) of respondents do fundraising. Of the fundraising strategies employed, foundation grants (86.4%) and individual gifts (86.4%) are the most common, followed by special events (63.6%) and corporate gifts (63.6%).

Very satisfied		4.5%
Somewhat satisfied		40.9%
Neither satisfied nor dissatisfied		18.2%
Somewhat dissatisfied		27.3%
Very dissatisfied		9.1%
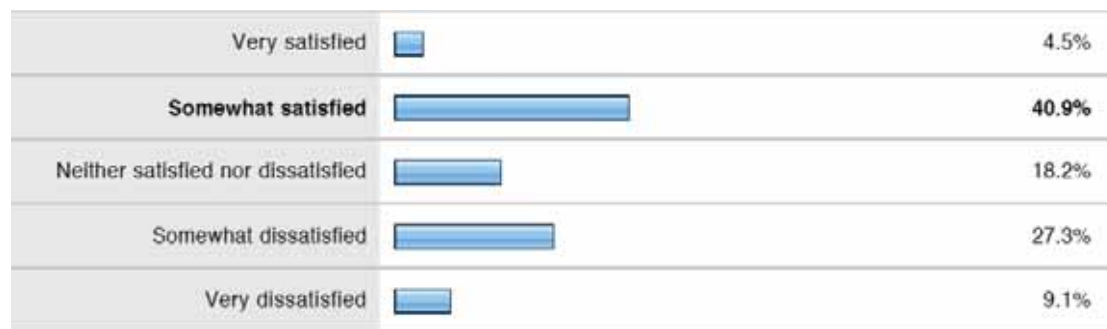
Figure 5.10. How nonprofit organisations feel about their current fundraising strategies

More nonprofits are "somewhat satisfied" (40.9%) than "somewhat dissatisfied" (27.3%) with their fundraising strategies (Figure 5.10). Only 4.5% reported being "very satisfied" with their fundraising strategies, and 9.1% reported being "very dissatisfied." The remainder were neutral.

The most challenging parts of fundraising revolved around communication, donor recruitment and retention, unpredictability and time. With regards to communication, respondents reported challenges with building awareness of their mission, getting information out to generate support, communicating how our organisation helps to address a complex problem, and spreading the word about the good work we do. Regarding donor recruitment and retention, respondents found the following difficult: expanding their existing donor base/attracting new donors, researching prospective donors, asking the same people to donate (retaining donors from year to year), training staff and volunteers to ask people for money, especially during a recession,

and finding corporate sponsors for events. Other fundraising challenges include the unpredictable nature of it from year to year, the time spent on it, securing funding for operations and overhead costs, which are rarely covered by grants, and having to compete with other organisation for funding, especially when their mission may be more emotionally appealing. Monitoring and evaluating returns, managing shortfalls and increasing the annual fundraising goal were also mentioned.

Everything we need to do		8.3%
Most of what we need to do		8.3%
About half of what we need to do		12.5%
Less than half of what we need to do		50.0%
Little to nothing		16.7%
I don't know		4.2%
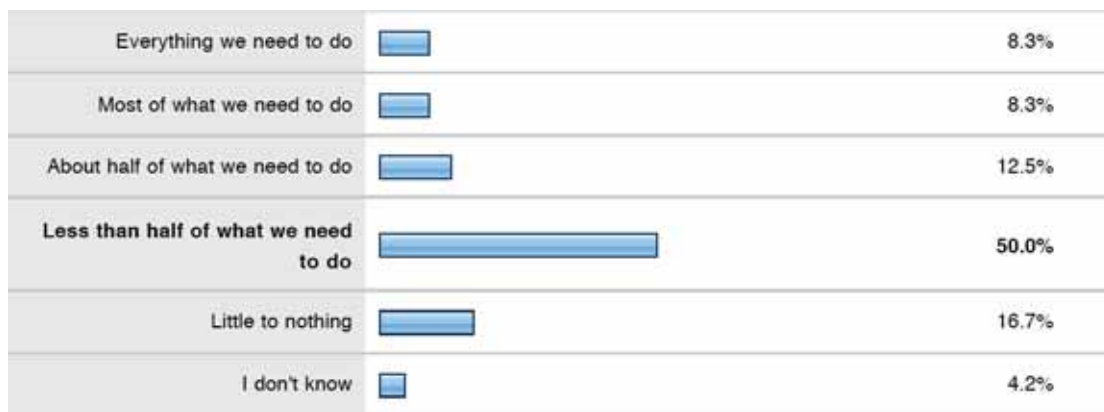
Figure 5.11. The portion of creative services that nonprofit budgets cover

With regards to creative services, 50% of participants reported that their current budget allows them to do "less than half of what they need to do." Other responses are shown in Figure 5.11.

Service offering:

When asked to critique their service offering, respondents were very confident in the quality of their service. 47.1% of respondents felt like their service was "very good" and "works extremely well." That same percentage (47.1%) felt like their service was "good" and "just needs to be tweaked." Not a single organisation reported having

poor or very poor services. Nearly half of respondents (47.8%) claimed that they

"rarely get complaints about their products and/or services." Service quality can

therefore be seen as a strength.

5.2.3. Themes around the orders of design

The results below are regarding the four orders of design—first order (communication

design), second order (industrial design), third order (service design and human-

centered design) and fourth order (design thinking). After participants were asked a

few questions about each order, they had the chance to indicate which area they

needed the most help with (Figure 5.12). Communication design was clearly the

order in which most help is sought, with 45.8% expressing need in this area,

followed by service design (20.8%), human-centered design (16.7%), and

industrial design (12.5%).
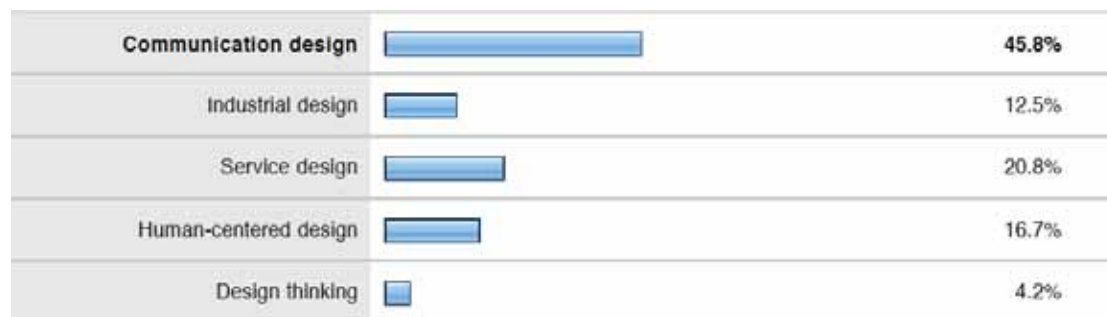
Figure 5.12. Design-related areas in which nonprofits need the most help

Only 4.2% expressed interest in getting help with design thinking. The researcher

would like to know why this number was so low. "Design thinking" was defined and

described in the survey, but perhaps participants did not fully understand its meaning or relevance to their work.

First order: Communication design

The types of communication design that participating organisations utilise most were (in order):

1. Event promotion (e.g. event logo, invitations, posters, postcards)

2. Website design, development and/or maintenance

3. Collateral (e.g. a brochure or folder with inserts)

4. Stationery (e.g. letterhead, business cards, thank you cards, envelopes)

5. Logo(s)

Compare that to the types of communication design that organisations reported needing the most help with (in order):

1. Digital storytelling

2. Website design, development and/or maintenance

3. Advertising campaign

4. Mobile app

5. Publication design

The types of communication design that organisations needed little to no help with included (in order):

1. Stationery suite

2. Premium items

3. Logo(s)

4. Environmental graphics

5. Exhibit design

These findings are further discussed in Section 5.3.

Second order: Product design

75% of respondents do not offer products to the community. For the 25% that do, they thought their products were either "very good" or "good." No one responded that they were "poor" or "very poor." The types of products they offer included photographs, promotional material, sculpture, houses, goods donated to impoverished communities, lesson material.

Third order: Service design

Over 70% of participants provide a service. Most of these services had been developed organically (76.5%). The most common ways that services had been developed were (in order):

1. Organically, it's morphed and changed over time

2. Collaboratively, with input from many voices

3. Creatively, to be innovative and different

4. Carefully, based on research and data analysis

5. Quickly, to meet an immediate, pressing need

Nonprofits are human-centered. All but two of the participating organisations reported that they make a conscious effort to develop their products and services to be human-centered, but most (66.7%) still admitted that they need to be "slightly more user-friendly." The two organisations that don't follow a human-centered approach said that was "not applicable."

Fourth order: Design thinking

The following lists indicate the most difficult issues facing nonprofit organisations, in an attempt to understand the contextual factors. They are grouped into five categories—social, technological, economic, environmental and political.

Social issues include:

- Consumer attitudes, myths, purchasing habits

- Rapidly changing environment is hard to keep up with, stay current

- Lack of knowledge about social networking

- Geographic issues

- Competition in NP, bigger profile = more funds received

- Assumed levels of service

- Focus on services, not as much on research

- Retaining volunteers and donors

- Information that's easy for the target audience to read

- Racial issues in the community

- Diversity, tailoring to their diverse needs

- Families in crisis

- Getting student support

- Lack of vision

- Depression

Technological issues include:

- Have older, slower computers because we can't afford the latest technology, lack of funds for IT, too costly

- Not knowing how to utilise IT, no expertise in this area

- Members' lack of access to web and social media, not IT literate

- Not having the time to maintain/manage our social media (feedback)

- More seamlessly combining online and offline communication

Economic issues include:

- Effects of economic downturn, less disposable income = smaller donations, but more demand for services

- Threat from for-profit businesses

- Harder to get dues or tuition from members

- Competitive fundraising market

- Smaller organisations struggle for market share

- Lack long-term financial stability due to annual fundraising

- Operations, cost of doing business has increased

- Doing business internationally has been hard with foreign currency fluctuating

Environmental issues include:

- Cost of green building

- Affected by the weather or seasons (higher intake during the cold months, harder to train in the winter)

- How to develop sustainable practices

- How to develop in a way that is most useful

- Utility costs are rising

Political issues include:

- How government changes its funding priorities makes its difficult to plan, takes time to monitor

- Lack of support, funding is not adequate

- Inflexibility of grants

- Little to no state laws to decrease bad behavior

- Complex legislative frameworks and requirements

- Trying to offer a viable alternative to state-sponsored programs

This feedback confirms that nonprofit organisations face many operational challenges while trying to solve wicked problems.

Nearly half of the respondents (45.8%) had worked with students from a tertiary institution before. 16.7% didn't know if students had ever worked with the organisation, and over one third said they had never worked with students. Reasons for not having any prior experience with students include:

- We don't know who to contact. *(the most common reason)*

- We don't know what the university has to offer.

- We never had inquiries from college students.

- It would be difficult to guarantee quality of final outcome.

- We don't know what students would need in return.

- It never occurred to us.

The majority (62.5%) was interested in receiving creative services from design students who attend a local tertiary institution. 37.5% said it depends, and no one declined the offer. Over half of the respondents would prefer to work with students through a combination of on- and off-site interactions rather than at their office, remotely or on campus. Email (79.2%) was the most preferred form of communication followed by face-to-face (70.8%) and phone (41.7%). Communication via the professor and social media were not as preferable.

Students would "always" have the opportunity to practice ethically, develop empathy with stakeholders, and learn about the contextual forces that shape a project. Students would "sometimes" have the opportunity to use a variety of tools/technologies, work with multi-disciplinary teams, engage in systems-level thinking, work on a project

during the planning phase, solve communication problems and build arguments for proposed solutions.

Nearly half of the participants (45.8%) had concerns about working with design students. Their concerns include:

- Lack of commitment to the work. Not engaged. We want students that want to be here, that have ambition/drive, take initiative, and have a good work ethic.
- Quality and consistency of the work.
- Receiving designs in a timely manner. Students work slower than pros.
- Risk of us not having the capability to continue their work after they leave (short-term fix) and would therefore like a skills transfer (capacity building) to train staff how to use software.
- Associated costs of design.
- Staff to manage them.
- No space for them to work.
- Poor attendance. Not reliable.
- Poor communicators.
- Time commitment.
- Little to no knowledge of our programs (training)

These are legitimate concerns that an educator would have to address upfront.

Anticipated benefits of partnering with design students include what organisations would give or contribute and what they would expect to receive from the partnership.

Respondents expect to receive the following from a partnership:

- New ideas, fresh, creative thinking, an external perspective
- Design-related benefits, such as:
    - How to establish a marketing campaign/strategy
    - How technology can benefit a charity (web and social media)
    - Information about the latest design trends
    - How to use technology (skills transfer)
    - Better visual communication, more professional appearance
    - Help completing design-related tasks on our "to do" list
    - Pro-bono creative service, save money
- More time to focus on operations and not on marketing
- Help providing a service to people
- Better relationships with the university and students

Respondents think they could contribute the following to the partnership (in order):

- Mentoring to help students develop professional/business skills
- Share industry-specific knowledge, passion and experience (i.e. teach students about their specific social problem)
- Help students develop communication and negotiation skills
- Provide an opportunity for civic-minded students to do community service
- Teach students about time management

One participant's comment summarised their desire for a reciprocal service-learning partnership: "We get creative thinking at no cost and they get on-the-job experience and to exercise their creative brain!"

5.3 Key findings from the surveys

The educator survey provided information about what is currently happening with regards to SLIDE, and the needs assessment shed light on the design-related issues and opportunities that exist at nonprofit organisations. Key findings from the educator survey (Table 5.1) and the needs assessment (Table 5.2) are shown on the following page. Each finding raised questions for case study research to explore.

Table 5.1. Key findings and questions resulting from the educator survey

Key Findings	Questions
More service-learning projects are offered in upper-level subjects than lower-level subjects.	Why is there more service-learning in upper-level subjects? Why is service-learning not as common in lower-level subjects?
The most common types of service-learning design projects were captured.	How are the deliverables determined? Is this what community partners need?
Most educators try to nurture a classroom dynamic that is more collaborative than competitive.	Why do educators prefer collaboration over competition?
The most common ways that educators find partners are through personal contacts or department leads.	How can service-learning centres help in identifying good community partners? What do they provide? How do they support SL?
Respondents found service-learning to be helpful in developing all nine of the capabilities in design students.	How does service-learning develop these capabilities in students?
Just over half of the student-generated designs get used by community partners.	Why is that? How can this number increase?

Table 5.2. Key findings and questions resulting from the needs assessment

Key Findings	Questions
Nonprofits need help communicating the value or impact of their work with donors and volunteers, especially when their mission is complicated.	How can design students best help nonprofits communicate complex information?
Nonprofits find it challenging to attract new donors and retain existing ones.	How can SL help with donor recruitment and retention? Can better communication strategies improve this?
Nonprofits are interested in working with design students, but they don't know who to contact or what services the university has to offer.	How can tertiary institutions be more accessible to community partners?

After surveying both groups, another observation was the misalignment between the current types of service-learning projects being offered in design education and the types of design that nonprofits reported needing the most help with.

Types of service-learning projects:

1) Logo/identity system

2) Material for an event

3) Print collateral

4) Information design

5) Advertising campaign

6) Web design

7) Design for mobile

8) Film/animation/video

9) Publication design

10) Magazine/newspaper ads

Nonprofits need the most help with:

1) Digital storytelling

2) Website design, development and/or maintenance

2) Advertising campaign

3) Mobile app

3) Publication design

Nonprofits do not need help with:

1) Stationery suite

2) Interior design

2) Landscape architecture

3) Logo(s)

3) Premium items

While the top design-related needs at nonprofits were being addressed in SLIDE, there was one major discrepancy. Logo/identity system is at the top of the list of current service-learning projects, however, logos and stationery suite were two areas where nonprofits reported they do not need help.

The results of phase one raised many questions for phase two to address. Case study research is discussed in the following three chapters.

Chapter 6. Phase two: Research design

6.1 Case Study Research

After completing the online surveys, findings from the first phase of research were analysed and synthesised. These findings informed the second phase— case study research.

6.1.1. Purpose

During the first phase of research, an online survey with design educators indicated what a sample of practitioners in Australia, the United States of America (USA) and the United Kingdom (UK) were currently doing with regards to service-learning, and an online survey with nonprofit organisations revealed design-related needs in the community. The educator survey shed light on SLIDE from an academic perspective (inside-out). The nonprofit survey added the community perspective to this research (outside-in). The next phase of research needed to bring these two worlds together and examine service-learning in a more holistic way within the context of university-community partnerships.

As discussed in the literature review, the majority of service-learning research focuses on the academic side. While the topic of service-learning is increasingly being researched from the community partner's point of view (Cruz & Giles, 2000; Stoecker & Tryon, 2009) or is inclusive of the university-community partnership (Budhai, 2012), this perspective is still secondary to the inside-out view. Most of the existing research with community partners is about service-learning in general, and the majority of the findings are based on program evaluations that yield statistical results

about satisfaction. This study looks beyond satisfaction with a particular service-learning project and into processes and long-term benefits to discern the value of the experience.

The specific research questions for phase two grew out of the literature review and out of the results of phase one. For example, nine core competencies for designers were identified during the review of literature in design education. Those themes are discussed in chapter two. The survey indicated that educators believe SL is a good way to build competence in each of these areas, but what is not yet known is:

- How to best develop competence in each area,

- How students regard the experience, and

- How community partners contribute to learning in these areas.

While survey respondents found service-learning to be helpful in developing skill in the nine areas, the reasons why they found it helpful need to be better understood. For example, why is service-learning a good way to develop empathy with stakeholders? Therefore, this second phase of research will seek evidence to support and explain the data from phase one.

6.1.2. Case study as a research method

Instead of investigating just the students' or the community partners' experiences with service-learning, a method was needed that would allow the whole service-learning experience to be regarded as the main unit of analysis. Case study research was determined to be a good way to explore service-learning in design education from

several perspectives since it aims for "holistic understanding, in order to do justice to the complexity of social life" (Punch, 2009, p. 294).

Many definitions of case study research exist (Punch, 2009; Simons, 2009; Stake, 1995; Yin, 2009). A very useful definition from Simons (2009) is as follows:

> Case study research is an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context. It is research-based, inclusive of different methods and is evidence-led. The primary purpose is to generate in-depth understanding of a specific topic, programme, policy, institution or system to generate knowledge and/or inform policy development, professional practice and civil or community action. (p. 21)

Since service-learning needed to be understood in context from the perspectives of design educators, design students and community partners, case study research was deemed to be the best approach for this second phase of research.

An important goal for case study research was to further explain the initial quantitative results from the online survey. For example, respondents to the educator survey reported that only 54.1% of community partners actually use the work completed by students. This discovery raised many questions, like why do some partners not use the students' work? Did the partner not need design? Or, were they not available to participate in the process? Or does it speak to the quality of student work? Did they not like the design solution? If a community partner doesn't use a student's design, how do educators handle that? The chosen method needed to be able to address a range of "how" and "why" questions – the types of questions best suited for the case study approach (Yin, 2009). Case study research aimed for in-depth understanding of service-learning in design education.

In terms of case study approaches, Stake (1995) discusses three types: intrinsic, instrumental, and collective. The intrinsic approach focuses on finding value in an unusual case. An instrumental case is chosen to gain insight about an issue that may be generalisable, and the collective approach studies multiple cases to form a collective understanding of an issue or question. The instrumental approach partially aligned with this study, but Yin offers a more suitable application.

Yin (2009) describes four applications of cases – explanatory, descriptive, illustrative, and exploratory. The category that aligned most with this study was explanatory, which aims to "explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies" (p. 19). Since the case study would be explaining results from a survey, the explanatory type best fit this phase of research.

The case study would rely on analytic generalisation, as opposed to statistical generalisation, whereby a particular set of results can be generalised to a broader theory (Yin, 2009, p. 43). For example, a 'working hypothesis' of this study was that lower-level design subjects offer service-learning projects that require students to individually solve tame problems (e.g. design a logo) while upper-level design subjects offer service-learning opportunities that involve students working in teams to articulate and crack wicked problems (e.g. educate the community about eating healthy). In striving for external validity, sites from each of the four orders of design were selected and carefully studied. Having a mix of orders ensured that the sample was theoretically diverse. Sites that involved students from a range of levels (e.g. first year, second year, etc.) dealing with a range of problems were also selected in an

effort to yield "transferable" conclusions, or conclusions that are applicable in other settings and contexts (Punch, 2009, p. 316).

To ensure internal validity, the researcher considered the following question: In addition to subject level and design order, what other factors contribute to the success or failure of a service-learning project? Factors like the length of an engagement, client participation, feedback and communication, student ability and interest in the subject matter, and on-campus support for service-learning can affect not only the project outcome but also the experience of everyone involved. These factors were therefore explored during case study research.

In summary, in an effort to define the case succinctly, this is a case of how service-learning at tertiary institutions can be utilised to build competence in design students while meeting design-related needs in the community. So to examine this case without bias, both successful and unsuccessful service-learning projects from the four orders of design across all levels of undergraduate education were considered relevant in this context.

6.2. Single-case design and the research question

The driving research question for this phase was: To what extent can service-learning build competence in undergraduate design students and meet design-related needs in the community? Since the main research question was the same for all sites, this study involved a single-case design, as opposed to a multiple-case design (Yin, 2009, p. 46).

Part of understanding the overarching research question for this second phase involved analysing the design process across all sites to see which parts or phases were beneficial to community partners and design students regardless of the subject level or design order. For example, do students in lower-level subjects that deal with short-term, lower-order design challenges, like a month-long logo design project, reap the same benefits from service-learning as students in upper-level subjects that deal with long-term, higher-order design challenges, like a year-long interaction design project? It is imperative that this phase follows a single-case design to see if the effects of service-learning are impacted in any way by subject level and/or design order.

Considering the layers of complexity with this case, the 'bounded system' needed to be defined. This would help with focus, scope and the development of a data collection strategy. To build context, the university-community partnership relevant to this research was regarded as the operating environment. Within that environment, service-learning in design education was seen as the system in focus. Three groups of individuals actively created the service-learning experience: design educators, design students, and community partners. This breakdown helped the researcher better understand the sources of data and the role that each plays in the bigger picture.

Both Yin (2009) and Punch (2009) emphasise the importance of collecting data from multiple sources of evidence. In order to provide evidence that supports claims made in phase one, input from design educators was gathered with every site, and when possible, feedback from design students and community partners was collected as well. Other methods included document analysis, artifact analysis and observation.

The combination of these sources enabled a triangulation of results. Table 6.1 shows the different kinds of data that were collected during this phase.

Table 6.1. Kinds of data collected during case study research

Unit being characterised	Operating environment: University-community partnership	System In focus: Service-learning in design education	Individuals: Design educators	Individuals: Design students	Individuals: Community partners
Tertiary institution	On-campus SL center, Support staff	Policies (field trip, consent forms, IP)			Length & type of relationship with school
Context		Articles/ press	Experience w/ SL (successes & failures, pros & cons)	Level of student (1st year, 2nd year, etc.)	Current situation (design need)
Subject materials			Subject outline/ syllabus (description/ overview, learning objectives)	Student feedback on subject/ teaching, course evaluations	
The service-learning experience		Type of service-learning (class project, internship, on-campus agency, study abroad)	Interview, document analysis (assignment sheets, grading rubrics)	Surveys, artifact analysis (final design solution, process work, reflective journals)	Surveys, use of student work, level of involvement

6.3. Developing the protocol

A protocol was developed to minimise error, remove researcher bias and consequently improve the reliability of results. The case study not only involved in-depth interviews with educators, but it also involved getting feedback from students and community partners, where possible, so to have the most complete picture of service-learning. To ensure construct validity, an operational set of measures was determined for each method, which is outlined in the following sections.

6.3.1. Methods with design educators

The protocol for research with design educators included the following:

- Schedule a one-hour phone interview with each participant

- Conduct semi-structured, in-depth interviews (Punch, 2009) – a set of questions was developed to guide the interviews. The list can be found as Appendix D. The questions sought in-depth information about service-learning design projects to explain some of the survey results around logistics, benefits and challenges. After gaining verbal consent, the audio from these interviews was recorded and stored in a secure, central location. In addition to the recordings, the researcher took field notes during each interview.

- Collect documents – request digital copies of documents mentioned during the interview, including the subject outline, assignment sheets, grading rubrics, consent forms, etc.

- Ask the educator to be the gateway to students in order to obtain feedback from participating students

- Ask the educator to either provide contact details for their community partner or forward an email survey to their partner

6.3.2. Methods with design students

When possible, qualitative and quantitative feedback was gathered from students who had participated in the service-learning project being investigated. Educators were the gateway to students. Once students agreed to participate, the educator then either shared the students' contact details with the researcher or forwarded an email survey.

In the survey, students were asked about their experience with service-learning so as to better understand their involvement and the impact that the project had on them. In the first section, students were asked to briefly explain their role and to rate their level of concern for the community partner's root cause and level of investment in the relationship with the community partner. The second section collected quantitative data to determine the helpfulness of service-learning in building competency. Students were asked the following question and given the option to rate nine areas on a five-point scale:

> How much did this project help you develop competency in the following areas?
> *(1= Not at all, 2= Slightly helpful, 3= Somewhat helpful, 4= Very helpful, 5= Extremely helpful)*
>
> 1. Working in multi-disciplinary teams
> 2. Problem-finding
> 3. Developing empathy with stakeholders, including the organisation's employees and service users
> 4. Engaging in systems-level thinking
> 5. Using a variety of design tools, methods and technologies
> 6. Solving communication problems
> 7. Understanding the contextual forces that shape a project
> 8. Building arguments for proposed solutions
> 9. Practicing ethically

In the third section, students were asked to explain what the experience taught them about design, to indicate how service-learning projects differ from non-service projects, and to highlight any benefits that they personally and professionally gained by participating in the project. A copy of the final student survey can be found as Appendix E.

6.3.3. Methods with community partners

Since university-community relationships are complex and have many facets, educators were also the gateway to community partners. The researcher asked each educator if it would be possible to involve the community partner. If they agreed, they were given the choice to either contact the partner directly or provide the researcher with their contact details.

When possible, an email survey was distributed to community partners who agreed to participate. They were given the choice to either reply by email or discuss the questions during a phone conversation. The survey asked open-ended questions about previous experience with students in general and then site-specific questions about their design-related needs, their agenda, meetings, the design process, outcomes, benefits, and their desire to participate in future service-learning partnerships. A copy of the partner survey can be found as Appendix F.

Quotes from community partners specific to each site were also extracted from presentations and papers written by participating educators and online articles or news stories about the particular project. If the community partner had an online presence, the researcher visited their Web site or relevant pages to learn more about their mission, programs, operation, facilities, location, service users and staff.

6.3.4. Observation

The strategy for each site included a combination of direct and indirect observation. If the researcher had access to a setting (e.g. a classroom or studio), field notes and

photographs were taken during studio time, pitches, field trips and final presentations. If the researcher did not have direct access, photographs were requested from the participating educator. Images were also retrieved from blog sites and media releases. Reasons restricting access to settings had to do with timing (e.g. past projects), obtaining consent from students and travel costs (e.g. international travel). Since access was relatively limited, there were no predetermined categories of observation. If an event, like a final presentation or field trip, had been documented, then the researcher analysed the available content.

6.3.5. Document analysis

Relevant documents were gathered in one of two ways. Any documents mentioned during the interviews with design educators were requested. This included the subject outlines, assignment sheets, grading rubrics, and consent forms. These documents gave the researcher an understanding of the learning objectives and project requirements—information that framed the experience for students. In addition to these documents, other archival documentation was found and reviewed. This included newspaper articles, journal articles, conference papers, presentation slides, content on the school's Website, project-specific blogs with students' process work and reflection. Some of these documents served as "substitutes for records of activity that the researcher could not observe directly" (Stake, 1995, p. 68). Though not the same as direct observation, these documents were especially useful when they provided detailed accounts of projects that happened in the past, including quotes from students and community partners.

<u>6.3.6. Artifact analysis</u>

In this second phase, an artifact is used to mean an example of student work. This could take the form of process work or final design solutions. Process work included sketches, prototypes, and student-generated documents, like design briefs and blog entries. Final design solutions were either digital files, like PDFs, photographs of student work, screenshots of designed websites, or videos hosted on YouTube. Similar to the process of reverse engineering, these artifacts helped the researcher understand information about the design challenge and project objectives.

6.4. The pilot case

A pilot case was considered necessary to focus the data collection plan for the actual case and to develop and test the research protocol. According to Yin (2009), a pilot case can be much broader than the final research design because it is formative in nature, as opposed to a pretest that's similar to a dress rehearsal. The pilot case can be used to clarify which questions and concepts are most relevant to the overall study and to determine if the methods for field inquiry are logistically feasible. Therefore, the researcher should have good access to the pilot participants and site, in terms of geographic proximity and data collection, and be able to articulate the lessons learned during the pilot.

Considering the above, the researcher wanted the pilot case to be a class project from a design subject where she was also the educator and one that would serve as an "average" or "typical" case (Yin, 2009). Based on the results of the educator survey, the majority of service-learning projects see students partnering with local, nonprofit

organisations to create logos and material for events. A class project between graphic design students and the Boys & Girls Clubs of Northeast Florida was used as the pilot case because it involved the creation of an event logo and promotional material for a local, nonprofit organisation. The project was first offered as part of a 200-level design subject from October to November in 2012. It ran again from March to April in 2013. By using this typical case as the pilot, lessons could be learned about the experiences of an average service-learning design project.

Weekly reflection throughout this project helped the researcher formulate an appropriate set of questions for future sites to guide semi-structured, in-depth interviews with other design educators. The following documents were utilised during the project: subject outline, design briefs, grading rubrics, consent forms. The researcher observed the classroom environment during studio time, critiques, and presentations. A range of artifacts were collected and analysed—process work, project milestones, images of final design solutions, images from field trips, and presentation boards.

A survey was also administered to participating students after projects were complete as a way to obtain student feedback. The survey asked students to:

- Describe their role, responsibilities and perspective on the project,

- Rate the value of specific activities during the project,

- Explain what the experience taught them about design,

- Compare this experience to other class projects that were not with a community partner,

- Suggest ways to improve the experience.

After project completion, the community partner completed an email survey, which asked them to describe the experience, evaluate specific activities and make recommendations for future projects.

Student feedback was gathered across both semesters in the form of a survey. Twenty out of forty-two students completed the survey. One of the lessons learned from this experience was a challenge with collecting data from students. For example, the first round of student feedback was a paper survey distributed on the last day of class, and the second student survey was sent via email after the teaching period. Students anonymously responded to the paper survey and were assured that their response would not affect their final grade. With the email survey, students didn't respond anonymously, but their feedback was requested after grades had been submitted. Since other sites would be from multiple continents and time zones and may happen after a teaching period, an email survey would sometimes be the only way to gather feedback from students. The researcher was also curious to see if students would spend more time reflecting on the experience outside of the classroom environment and would be more honest after marks were turned in. To measure this, the researcher compared the length of responses and the points that were made. Responses between the two student groups were very similar. The major difference between these two distribution methods is the response rate. The response rate was much higher with the paper survey (14 out of 16 students participated) than the email survey (6 out of 26 students participated). Since most of the sites were remotely studied, the ideal method for gathering student feedback would involve an educator printing and distributing surveys during class, and then scanning and emailing those responses to the researcher. Since that is a time-consuming process, it could be a deterrent for some educators, so both an email survey and paper survey were presented as options.

During the pilot, students were asked to rate the value of activities specific to that particular project. There was a missed opportunity to incorporate the nine themes or competencies instead of specific activities. This would also ensure external validity. The activities were changed to the nine competencies before the first site was studied.

Another take-away from the pilot case came from dialogue with the community partner. Even if the experience during the 'class project' is great for the community partner, the real value for them comes after the class project is over. Thus, questions during other sites needed to investigate what happens post-project – how designs are finalised, prepared for production and implemented beyond a conceptual point.

6.5. Data Collection

6.5.1. Participant selection

The results of the educator survey from phase one informed the strategy for case study research. According to Punch (2009), this approach is often used where "first-phase quantitative results guide the selection of subsamples for follow-up, in-depth qualitative investigation in the second phase" (p. 296).

The SLIDE framework discussed in chapter three was a heuristic when determining the participants for case study research. The goal was to study examples from each of the four orders of design and each of the three service-learning mindsets, for a total of twelve sites.

The researcher also wanted to examine sites that dealt with a range of social issues. This could indicate whether or not the nature of a project affects engagement. The

researcher reviewed online collections of socially-oriented design projects as a way to anticipate the categories that might emerge. As discussed in chapter two, work by HCD Connect (2013) and Design Ignites Change (2013) identified focus areas, like agriculture, education, energy, environment, human services, financial services, gender equity, health, community development and water. Also taken into consideration were the categories used by the National Taxonomy of Exempt Entities to classify nonprofit organisations. These themes influenced the selection of case study participants.

6.5.2. Recruiting case study participants

As mentioned above, the goal was to have a total of twelve sites so to have an example for each cell in the SLIDE matrix. The first recruiting method was to ask the forty-six respondents from the educator survey that expressed interest in further participation (13 from Australia, 28 from the USA and 5 from the UK).

An email invitation and online consent form was drafted in November 2012. After testing it with an educator in December 2012, it was determined that this communication sounded too time-consuming and invasive. The final invitation to participate, found as Appendix G, was simplified and then emailed to interested educators in May 2013.

This approach resulted in a response from three educators in Australia, seven in the USA and one from the UK. However, two of the three Australians and two of the seven Americans did not have experience with service-learning but were willing to help. All total, this approach yielded seven case study participants.

To fill in the gaps in the matrix, the researcher performed online research to identify appropriate projects for this study. Ten educators were contacted by email. Of these, five agreed to participate.

This process resulted in twelve sites—one for each cell in the SLIDE matrix. All communication with participants—design educators, design students and community partners—occurred between June and October 2013. Table 6.2 indicates how the researcher initially analysed and identified each site using the SLIDE matrix. There were eight sites from the USA, three from the UK, and one from Australia.

Table 6.2. Sites in the SLIDE matrix

	Service-Learning Mindsets		
Orders of Design	**Learner/Charity**	**Citizen/Project**	**Activist/Social Change**
4th Order: THOUGHTS	**SITE 6:** The future of modern slavery in Australia	**SITE 12:** Design thinking during a South African field study	**SITE 1:** Co-care and community-wide change
3rd Order: ACTIONS	**SITE 5:** A branded Web site	**SITE 11:** An on-campus agency	**SITE 7:** Preparing for the Denver Biennial
2nd Order: ARTEFACTS	**SITE 10:** Planning a 'Chair-ity' auction	**SITE 2:** Community-based design competition	**SITE 3:** Co-design with Aphasics
1st Order: SYMBOLS	**SITE 4:** Campaign for Homeless charity	**SITE 8:** Two models for service-learning	**SITE 9:** Public housing guidebook

Participants were assured that their identity would remain strictly confidential. In order to respect their anonymity, all participants were given a number. Table 6.3 lists the participant numbers for each site, including educators (E), students (S) and

partners (P). Participants will be referred to by their number for the remainder of this thesis.

Table 6.3. Participant numbers

Site	Educator	Student	Partner
Pilot Case	PCE1	PCS1 - PCS20	PCP1
1 (Health Literacy)	C1E1	C1S1 - C1S4	C1P1 - C1P4
2 (Contest)	C2E1	C2S1 - C2S3	C2P1 - C2P3
3 (Aphasia)	C3E1	C3S1, C3S2	C3P1
4 (Homeless)	C4E1	C4S1, C4S2	C4P1, C4P2
5 (Branded)	C5E1	C5S1, C5S2	C5P1
6 (Slavery)	C6E1	C6S1 - C6S11	C6P1
7 (Urban Redevelopment)	C7E1		C7P1
8 (Two Models)	C8E1	C8S1	
9 (Public Housing	C9E1	C9S1, C9S2	C9P1 - C9P3
10 (Chair Auction)	C10E1		
11 (Agency)	C11E1, C11E2	C11S1 - C11S3	C11P1
12 (South Africa)	C12E1 - C12E3	C12S1 - C12S3	

All total, 15 educators, 53 students and 18 community partners participated in case study research. Educators participated at every site. While the researcher attempted to get student feedback for all twelve sites and sent follow-up communication to the educators, two sites (Site 7 and Site 8) did not result in any responses from students. Feedback from community partners was not obtained from three of the sites (Site 8, Site 10 and Site 12). For one site (8), the educator never had any interaction with the partner (that was the student's responsibility), so they did not have the partner's

contact details. For the other two sites, the educators did not agree to contact their partners.

The twelve sites deal with the following social issues:

- Health (Site 1, Site 3, Site 9, Site 11),

- Humanity (Site 3, Site 4, Site 5, Site 6, Site 8),

- Education (Site 1, Site 2, Site 3, Site 12),

- Local business (Site 2, Site 12),

- Community development (Site 7, Site 9),

- Politics (Site 1, Site 6),

- Religion (Site 5, Site 8),

- Environment (Site 7, Site 9, Site 10)

- Arts/culture (Site 10, Site 11)

While in an ideal world, the research would be conducted on-site, due to the geographic spread across three continents, and hence the costs involved, it was determined that sufficient data could be collected remotely via email, phone and video conferencing. Table 6.4 summarises the sources of evidence collected for each site.

Table 6.4. Collected sources of evidence

	Design Educator	Design Students	Community Partner(s)	Observation	Documents	Artifacts
Pilot Case	Reflection	Email and paper surveys, focus group	Survey	Photographs of presentations, field trip, pitches, field notes	Newspaper article, blog, partner's website	Digital files and photographs of student work
Site 1	Interview	Email survey, interview	Quotes from journal articles	Photographs of presentations	Journal articles, conference papers, partner's website	Photographs of final designs, website screenshots
Site 2	Interview	Email survey, Quotes from articles	Quotes from articles		Grading rubric, trade publication, blog	Photographs of final designs
Site 3	Interview	Blog entries	Quotes from articles	Photographs of process work	Conference paper, newspaper articles, blogs	Photographs of final designs, YouTube videos
Site 4	Interview	Email survey	Email communication	Photographs from the launch event	Presentation slides, grading rubric, story on school's website	Photographs of final solutions
Site 5	Interview	Email survey	Email survey	Photographs of presentations	Presentation slides, story on school's website, partner's website	Photographs and Website screenshots
Site 6	Interview	Email and paper surveys	Email survey	Photographs of process work	Journal article, design briefs, subject outline, partner's website	
Site 7	Interview	Blog entries	Email survey	Photographs of process work	Blog, partner's website	
Site 8	Interview	Email survey			Conference paper	Digital files, website screenshots
Site 9	Interview	Email survey, Quote from portfolio	Email survey		Partner's website, existing case study	Digital files and photographs of student work
Site 10	Interview			Video of auction	Online article, page on school's website, social media page	Video of student work
Site 11	Interview	Quotes from articles	Quotes from articles		Agency website, news articles	Digital files and photographs of student work
Site 12	Survey, email communication	Blog entries, quotes from articles		Photographs from field study	Articles on school's website, blogs	

Educators were very cooperative during interviews and were generous with their time. The average interview length was 90 minutes. However, after the interviews, it was more difficult than expected to get responses to follow-up emails requesting subject outlines, design briefs and grading rubrics. To supplement this, the researcher found course catalogs, subject descriptions, project blogs, journal articles and news stories online. As a whole, the data set was substantial with evidence coming from a variety of sources.

6.6 Data analysis and interpretation

Simons (2009) advises to "begin at the beginning" with regards to the analysis of qualitative research (p. 119). Thus, the process of analysing and interpreting data was not saved for the end, after data collection was complete. This activity started early, at the beginning of case study research, and was ongoing and iterative. Miles and Huberman (1994) offer an approach for analysing qualitative data that involves three interlinked techniques – data reduction, data display, and conclusion drawing and verification. This overall perspective was adopted early and guided the process of data analysis.

6.6.1. Analysing data from design educators

Since the interviews were intended to be in-depth, progressive focusing was used to refine the wording and order of interview questions during data collection. While this resulted in more focused questions and reduced interview data to issues and themes, it

still produced over 16 hours of audio recordings and 96 pages of handwritten field notes.

6.6.2. Analysing data from design students

For each site, qualitative survey data was compiled in Microsoft Word and thoroughly reviewed, and quantitative data was analysed in Microsoft Excel. After calculating the weighted mean, Likert responses were displayed in the form of bar graphs and star plot diagrams to visualise relationships and see patterns. Since students were rating the helpfulness of nine aspects of a project, start plots or radar charts were chosen to represent the nine variables in a single graphic.

6.6.3. Analysing data from community partners

Qualitative data from community partners in the form of email responses, audio recordings and field notes was compared against the feedback from educators and students who were associated with the same site.

6.6.4. Analysing documents and artifacts

Images of student work and presentation files were analysed. Observations were made about the quality, craftsmanship and professionalism.

To draw conclusions, a process of triangulation and corroboration was used to gradually confirm and verify emerging patterns and themes. This occurred through "aggregation of instances" until something could be said about them as a class or a pattern emerged (Stake, 1995, p. 74). This took time to review material from multiple sources and multiple sites, but it enabled the researcher to check for accuracy, corroborate data, and make inferences.

6.6.5. Concept maps, narratives and coding

Concept maps were used to visualise data from each site and identify links between related concepts. The maps were created while being immersed in the data. Field notes from interviews with design educators were reviewed, audio recordings from the interviews were played back, survey responses from students and partners were reread, and documents and artifacts were revisited as needed. Each concept map started with the site number in the middle and branched out from there. The maps helped to organise the data into categories, to see interrelationships, and to identify themes (Simons, 2009). Thumbnail images of the 12 concept maps are shown in Figure 6.2. Though not quite actual size, one of these maps (Site 4) is shown larger in Figure 6.1 to allow a viewer to see the detail upon inspection.

The process of creating the concept maps helped the researcher bring together data from multiple sources and craft a single, coherent story for each site. Descriptive narratives were written in an attempt to tell the unique story of each site and to ensure that the holistic nature of the case was not jeopardised. The narratives preserve the wholeness of each example by reporting a detailed account in context, which was an

essential part of understanding the experience. Since some important features with significant meaning appeared at only one site, the researcher was careful not to lose "direct interpretation of the individual instance" and the case as a whole (Stake, 1995, p. 74).

The concept maps also helped with data reduction. Coding was used to reduce data. Each map was exhaustively coded using Miles and Huberman's (1994) approach to coding. They distinguish between first-level codes and second-level codes. First-level codes are descriptive codes for labeling data and summarising segments of data, like demographics, and require little to no inference. Second-level codes are inferential pattern codes used to identify themes and categorise into meaningful units. The set of first-level codes dealt primarily with how service-learning was developing capability in the nine areas. They identified the specific ways that students were gaining experience with facets of design practice. Second-level codes were used to draw conclusions about service-learning as it relates to design order and SL mindset.
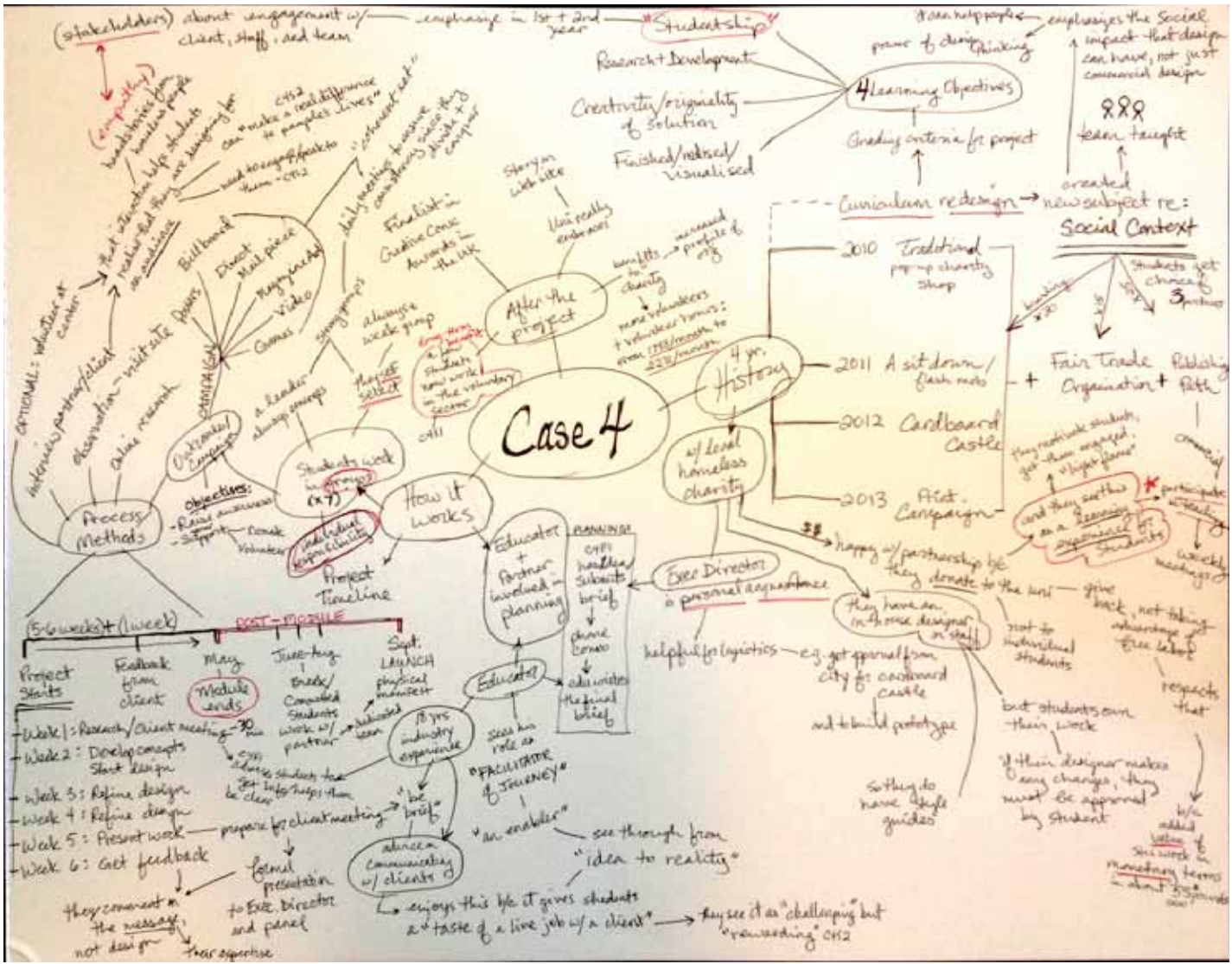
Figure 6.1. Concept map from Site 4

Figure 6.2. Concept maps from the 12 sites

Visual models of how the educators, students and partners worked together during

service-learning were also created as a method of analysis (Figure 6.3).
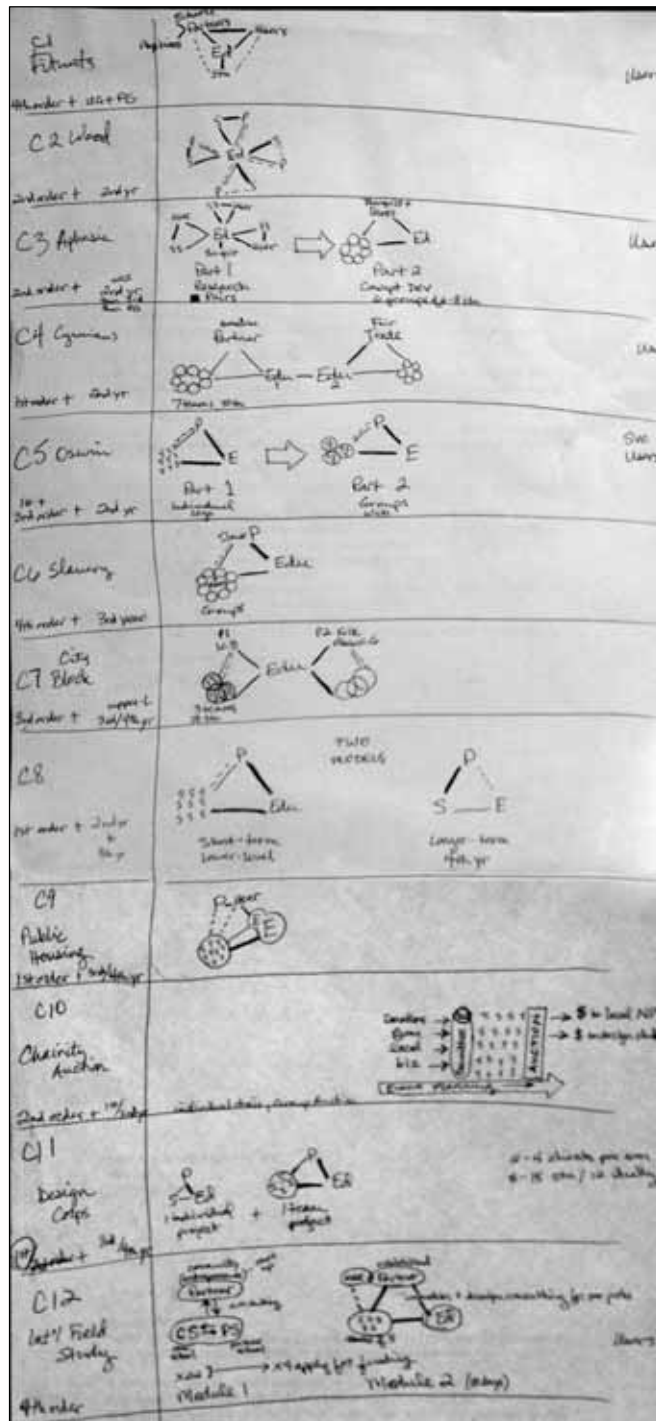
Figure 6.3. How educators, partners and students worked together during SLIDE

These diagrams or schematics became useful for understanding the different ways that

projects are managed and the different ways that students work. The line style (solid,

dashed, heavy) indicates the type of relationship that existed between stakeholder groups. They are discussed in chapter seven.

6.7 Summary

This chapter explained the purpose of case study research and the design of this methodology. It detailed the protocol that was developed to collect data from design educators, design students and community partners, as well as other research methods, like observation, document analysis and artifact analysis. The data collection plan for participant selection and recruitment was outlined. Data analysis procedures, including concept maps, narratives and coding, were also discussed.

The next chapter includes the results of case study research in the form of twelve site summaries. Chapter eight follows that with a discussion of the emerging themes in relation to the theoretical framework.

Chapter 7. Phase two: Site summaries from case study research

7.1 An overview of the twelve sites

The results of case study research are presented in this chapter and analysed in chapter eight. Descriptive narratives were written for each site. Summaries of these detailed accounts are included in this chapter to provide background information about each partnership, an overview of the approach taken, and an abbreviated version of the outcome as it relates to the SLIDE matrix.

Table 7.1 provides a snapshot of each site, specifying the location of the tertiary institution, the city population, the subject and the school or department in which service-learning was offered, the project name and length, the design objective, the level and number of students enrolled in the subject, and the community partner. This table indicates the broad range of sites studied, which provided rich insight into the nature of SLIDE. It reflects the diversity of partnerships and their institutional context. There was a mix of urban and rural, public and private, two-year, three-year and four-year programs, as well as research universities and liberal arts institutions from diverse geographical regions.

Table 7.1. An overview of the 12 sites

	Site 1 (Health Literacy)	Site 2 (Contest)	Site 3 (Aphasia)	Site 4 (Homeless)	Site 5 (Branded)	Site 6 (Slavery)	Site 7 (Urban Redevelopment)	Site 8 (Two Models)	Site 9 (Public Housing)	Site 10 (Chair Auction)	Site 11 (Agency)	Site 12 (South Africa)
Location	USA Pittsburgh, PA	USA Bellingham, WA	UK Dundee, Scotland	UK Newcastle, England	UK Newcastle, England	AUS Melbourne, VIC	USA Denver, CO	USA Findlay, OH	USA Boston, MA	USA Kenosha, WI	USA New York City, NY	USA Boston, MA
Population	305,841	82,631	141,870	279,100	279,100	4,347,955	649,495	41,512	645,966	99,889	8,405,837	645,966
Tertiary Institution	Carnegie Mellon University	Western Washington University	University of Dundee	Northumbria University	Northumbria University	Swinburne University of Technology	Metro State University of Denver	University of Findlay	Massachusetts College of Art and Design	Gateway Technical College	Pratt Institute	Northeastern University
School or Department	School of Design	Engineering Technology Department	Duncan of Jordanstone College of Art and Design	Media and Communication Design	Media and Communication Design	School of Design	Department of Art	Department of Visual and Performing Arts	Graphic Design	Architecture and Construction	School of Art and Design	Social Enterprise Institute
Subject	N/A, an assistantship or on-campus internship	ETEC 216: Sophomore Industrial Design II	Context and Stakeholders (2011), Design Studies (2009)	DE0989: Graphic Communication in a Social Context	DE0977: Innovation and Collaboration	Design Systems and Services	ART 3980: Community Design Center (CODEC)	ART 305: Graphic Design and ART 495: Professional Practices in Art: Graphic Design	CDGD 305: Print Production	N/A, voluntary participation	COMD 464: Design Corps	ENTR 3306: Global Development Entrepreneurship and ENTR 3308: Business Economic History of Modern South Africa
Project	Fitwits	Furniture design competition	The side-by-side project	The PLUS project	Rebranding the branded	Australia and modern slavery	"In good we trust"	Tri-fold brochure and senior capstone	"Welcome Home"	Chair-ity Auction	Design Corps	South African field study
Length	2008 to present	One teaching period	12 weeks	6 weeks	12 weeks	One teaching period	Two teaching periods	18 days to 7 months	12 weeks	8 months	15 weeks	5 weeks
Design Objective	To improve health literacy, first among children, then among their parents and teachers, and ultimately on a community level.	To construct a unique furniture solution that meets a current need at a community nonprofit organisation.	1) To increase awareness of aphasia, 2) To design interventions to help Aphasics in their daily lives.	To promote volunteering as something that is worthwhile and rewarding, and to raise the organisation's profile.	To rebrand and design an online communication platform to help the trustees spread their message and engage stakeholders.	To employ design methodologies to slavery issues in Australia and then propose a new system and/or service.	To help an innovative nonprofit organisation prepare for the Denver Biennial.	To provide original designs at no cost to organisations as a form of meaningful service to the community.	To 'design for good' whilst learning about print production.	1) To refurbish furniture, 2) To plan, promote and host an auction.	To provide nonprofit organisations with quality design services at no cost, while exposing Communications Design students to professional experience.	To foster new businesses in South Africa and thus lift entire communities toward prosperity.
Students	A mix of undergraduate and post-graduate students from design and information science	2nd year industrial design students	2nd year product design and interaction design students	2nd year graphic design students	2nd year interactive media design students	3rd year students from communication design, industrial design, interior design and multimedia	Undergraduate students majoring in design, digital arts and the individualised degree program	2nd, 3rd and 4th year graphic design majors and minors	3rd and 4th year graphic design majors	1st and 2nd year interior design students	3rd and 4th year students majoring in communication design	2nd, 3rd and 4th year students from several disciplines
Number of students	Unknown	23 in 2013, 19 in 2012, 24 in 2011	6 groups of 6-8 students	7 groups of 4-5 students, 30 total	32	8 teams	8-10 total, divided into 3 groups	Varies	12	30	8 to 16, depending on the semester	42 in 2013
Community Partner(s)	Children, teachers, parents and physicians	Mt. Baker Plywood and several, local nonprofit organisations	Aphasics, their family members and/or carers, a speech and language therapist	The Cyrenians (homeless charity)	The Oswin Project	Slavery Links	Living City Block	On-campus health clinic and a small, local, nonprofit organisation	Boston Housing Authority and Harvard School of Public Health	A local charity and an interior design student organisation	Nonprofit organisations— local, regional and national	Small business owners in Cape Town and South African students from a local business school

7.2 Site summaries

7.2.1. Site 1: Health literacy

Synopsis

Site 1 is an example of fourth-order design where the design educator (C1E1) views service as a form of social change. Fitwits started as a grant-funded research project at Carnegie Mellon University in Pittsburgh, Pennsylvania (USA) in 2008. Though never part of a subject, undergraduate students participated as interns, and post-graduate students were research assistants. Initially, the project involved working with children between the ages of nine and twelve at five local schools to design a sixty-minute curriculum about healthy eating. The goal was for early intervention to reduce adult obesity in a state plagued by the medical condition.

Approach

The approach of co-design combined with models of change and systems-level thinking elevated the project from first-order design to fourth-order design, which led to co-care and community-wide change. The initial phase involved participatory design methods to develop child-inspired characters, physical activities and traditional games. The plan was to start with kids, who would influence teachers at schools and parents at home, then expand to the community, working with physicians at children's hospitals and clinics to improve conversations about health literacy during well visits. The final stage would involve working on public policy.

Outcome

The design team implemented multiple modes of presentation, including the school program and educational tools that physicians can use with patients. Fitwits has significantly improved participant's knowledge of health concepts. This project doesn't easily fit into one cell in the SLIDE matrix. It crossed all orders and required a range of skill sets. While the entire process demanded multiple perspectives, the educator's activist mindset was the driving force. Fitwits required a leader who was highly concerned with the root cause and highly invested in relationships with stakeholders to achieve community change. The educator dedicated significant amounts of time and energy to garner the necessary support for research and development and has managed relationships with diverse groups of people, from low-income families to affluent physicians.

7.2.2. Site 2: Contest

Synopsis

Site 2 is an example of second-order design where the educator views service-learning as an opportunity for students to develop as citizen designers. A community-centered design contest started at Western Washington University in 2009 after the design educator (C2E1) observed a disconnect between his institution and the local community of Bellingham, Washington (USA). C2E1 felt inspired to use industrial design to bridge the town-gown gap. Students in a sophomore studio were asked to plan, design and construct a unique furniture solution that met a need at a local nonprofit organisation. A nearby lumber company offered to donate plywood for the

project and wanted to award scholarships to a few of the participating students. Each year, a panel of five judges reviews the final solutions to determine six scholarship winners.

Approach

Since the contest's inception, the educator has taken two different approaches. The first involved him acting as the service-learning coordinator and managing the relationship with the community partner. More recently, he has put the responsibility of finding a community partner on each student in the class. They have to identify a nonprofit, conduct research, which involves an interview with the partner and observation (e.g. take photos). This process is meant to help students learn how to discover an opportunity for design, and it also allows them to choose an organisation that they care about, in hopes of becoming more engaged with the project.

Outcome

Most of the nonprofit organisations have used the students' designs, which is evidence to the educator that the project is bridging the gap. C2E1 is civic-minded and views the students as citizens doing 'good' in the community. While some of the students were also of this mindset, the majority of students prioritised their development as individual designers over their development as good citizens due to the portfolio review at the end of their second year. Regardless of the motivating factor for students, the design contest has enabled a university's industrial design program to have a positive impact on the local community.

Synopsis

Site 3 is an example of second-order design where the educator views service as a form of social change. C3E1, a design educator at Duncan of Jordanstone College of Art and Design in Dundee, Scotland (UK), has offered a class project related to aphasia two different times—first in 2009 as part of an undergraduate subject titled "Design Studies" and then again in 2011 in "Context and Stakeholders." During both iterations of the twelve-week project, students knew upfront that the work was going to be: 1) in response to a design brief by the Royal School of Art, 2) funded by a National Health Service Innovation Grant, and 3) presented at a public exhibition. Consequently, there were project constraints regarding topic, approach, and time, plus the pressure to produce results.

Approach

The brief, titled "Design for Social Inclusion," challenged students to co-design a product or service with people in the community who were impaired in some way. The class chose a section of the brief called "Aging the Gap" and worked with a local support group for people who struggle with aphasia, a communication impairment acquired after injury to the speech and language centre of the brain. Students interviewed aphasia sufferers and listened their stories, which helped them see Aphasics as real people, not just patients with a medical condition. After primary and secondary research, students worked in teams with stakeholders to develop concepts around two main objectives: 1) raise awareness about aphasia, and 2) help sufferers communicate with others.

Outcome

The final solutions were displayed at a public exhibition, attended by participating Aphasics, family members, the therapist and representatives from the RSA and NHS. This project took time, support, faith in the design process and empathy. The timeline spread across a calendar year, with grant applications happening in January and the module going from September to December. While the financial support was key to implementation, it was the educator's belief in design that made the project possible. The students started out with little to no concern for the root cause and were confused about their role in the process, but after developing empathy with stakeholders they had a higher level of engagement with the project.

7.2.4. Site 4: Homeless

Synopsis

Site 4 is an example of first-order design where the educator views service-learning as a charity. The educator (C4E1) created a class project for a subject at Northumbria University (UK) titled "Graphic Communication in a Social Context" to emphasise the social impact that design can have. C4E1 decided to partner with The Cyrenians, a local homeless charity, in 2010, and has worked with this organisation since.

Approach

Each year, the director comes up with an idea for the brief (e.g. promote volunteerism) and then students work in groups to develop a campaign in response to the live brief. The design project lasts for six weeks, concluding with a formal

presentation to a panel, followed by client feedback. After the class project is complete and the module is over, committed students continue to work with the community partner during the break to prepare for the launch, which always has some sort of physical manifestation. For example, in 2012, the winning campaign, called "Lets Build Together," involved building the largest cardboard castle on record out of 1,400 boxes.

Outcome

The campaigns have been very effective for the charity. In just one year, the Volunteers Manager (C4P2) noticed a jump from an average of 1,788 volunteer hours per month to 2,231 volunteer hours per month. On the academic side, the educator (C4E1) believes that the students get a lot out of the project. Namely, they get to work with a client, design for a target audience, see a project through from start to finish, and experience the power of design thinking. Beyond industry knowledge, students learn about a very complex social issue, homelessness, from the community partner. To sustain this mutually-beneficial relationship, the educator has created an environment in which everyone understands their role and has respect for others.

7.2.5. Site 5: Branded

Synopsis

Site 5 is an example of third-order design where the educator (C5E1) views service as a charity. It was a public engagement project that second-year interactive media design students completed during a subject titled "Innovation and Collaboration" at

Northumbria University (UK) in 2013. The community partner was a local charity, The Oswin Project, which exists to help ex-offenders secure employment. The organisation needed a logo and a branded website to help them secure funding.

Approach

The design project followed an intuitive process. The founder came into the classroom to talk about the organisation, discuss their design needs and answer questions from students. From this point on, the creative process gave students experience working in both a cooperative and collaborative way. For the first six weeks, students worked individually to develop visual identities for The Oswin Project. After presenting their ideas to the partner, the founder and trustees narrowed it down to eight logo designs. From that point forward, teams formed around the top logos. Students worked in groups to design the Web site, which included developing a site map, prototyping, creating original content and integrating with social media. Six students went on site to meet, observe and photograph ex-offenders who were renovating a shop just outside of Newcastle. The images taken during this trip were used on the Web site.

Outcome

The Web site went live one week after students' final presentations. On the academic side, building a fully-functional Web site required a technical skill that students were only just learning, and on the partner side, the director had no knowledge of design and no experience working with university students. Thus, the educator found that he was constantly managing both the students' and partner's expectations. On top of that, several students did not support the organisation's mission. Even though students

reported a low- to medium-level of concern with the root cause, this project provided

them with the experience needed to meet and/or exceed every desired learning

objective for the subject.

7.2.6. Site 6: Slavery

Synopsis

Site 6 deals with a fourth-order design problem and an educator (C6E1) who views

service-learning as an opportunity to develop students as learners. In 2013, third-year

students enrolled in "Design Systems and Services" at Swinburne University were

asked to challenge conventional thinking of and approaches to slavery. To establish

the project's major themes and build context, the class partnered with Slavery Links, a

community association that seeks to minimise the harms of slavery in Australia

through education, research and policy development. Students were asked to address

one of the following forms of slavery: forced marriage, child labour, child soldiers,

and labour trafficking. The goal was to develop sustainable practices that could be

implemented to bring about positive and beneficial change. The brief was deliberately

open to encourage innovative thinking.

Approach

Before starting any work with the community partner, students had to complete

exercises that involved using a range of user-centered design methods that they would

later apply to the complex social problem of slavery. After this, the director of

Slavery Links (C6P1) came into the classroom to introduce slave-making processes in

Australia and challenge students to think about slavery from a systems view to see what steps might be required to bring about change. The project progressed in two phases. During stage one, students created visually descriptive mapping, developed personas, acted out 'use-case scenarios' and generated user journeys to improve their understanding of the current situation. During the second stage, the class discussed systems change and started to imagine alternative futures. Students were asked to look ahead to the year 2020 so they could break away from past and current behavior. They conceptualised a range of ideas, from tangible solutions, like awareness campaigns, to more intangible solutions, like community-based processes.

Outcome

There were two main deliverables—a final group presentation to an assessment panel and submission of an individual workbook. This project required a passionate and dynamic community partner to educate students about a social issue that they reported having little to no knowledge of. C6P1 helped to build a connection to the subject matter for students, which allowed the educator to focus on teaching students about design.

7.2.7. Site 7: Urban redevelopment

Synopsis

Site 7 is an example of third-order design where the educator views service-learning as a form of social change. During ART 3980: Community Design Center, students majoring in communication design and digital art at Metro State University of Denver

in Colorado (USA) participated in a project to help nonprofit organisations prepare for the Biennial of the Americas in 2010. During the Biennial, 357 innovators related to health, energy, environment, habitat, economy, education and technology would be on exhibition in Denver for seven weeks. Metro State got partnered with Living City Block (LCB), a multi-phased redevelopment project that aims to convert existing buildings with various owners in an urban setting into a fully sustainable community.

Approach

The educator (C7E1) nurtured an organic approach to collaboration and encouraged students to apply design thinking to create experiences for people. The Founder/President (C7P1) came on campus to introduce LCB, outline their needs and answer questions. During the meeting, students focused on problem finding and identified their main challenge: to find a way to both educate the public and inspire people to work towards sustainability. They also discovered that LCB needed a logo. LCB hosted a Design Charrette on site to share their mission, discuss the current situation and envision the future community. Several students attended and brought that learning back into the classroom. After conducting research and exploring a range of ideas, students formed three groups around the concepts that had the most potential—wayfinding, video projection, and a communication platform.

Outcome

Each group gave a final presentation to the educator and the community partner to explain the purpose of each concept, the role it would play, and what it would allow viewers to do. After the semester ended, the project required additional resources to ensure that concepts were successfully implemented. The educator arranged for two

students to continue working with LCB in an internship capacity and a third student worked on developing the corporate identity.

The partner's desire to collaborate and be accessible to students was key. The project required students to float between several of the design orders and between theory and practice. For example, they were doing systems-level thinking early on to learn about urban redevelopment and sustainability, and towards the end, they were trying to make budget-conscious decisions about design production.

7.2.8. Site 8: Two models

Synopsis

Site 8 is an example of first-order design where the educator views service-learning as an opportunity to develop students as citizens. This site examines how the educator (C8E1) embedded service-learning at all levels of the graphic design curriculum at the University of Findlay in Findlay, Ohio (USA). The educator's protocol for service-learning projects supplements the support provided by the university's Campus Compact Center.

Approach

C8E1 has developed two distinctly different models—one for second- and third-year subjects and another for a fourth-year capstone. In the lower-level subjects, projects involve designing one component and last three weeks. The capstone subject has operated like an independent study, with students designing multiple components over the course of a semester. Table 7.2 indicates how these models differ with regards to

project length, complexity, partner involvement, client communication and

assessment. There are significant differences, but the same grading rubric is used

across all design subjects.

Table 7.2. Two models at Site 8

Subject level	200 & 300	400
Project Length	18 days (3 weeks)	Planning + semester (7 months)
Who chooses the partner?	Educator	Student
Who writes the brief?	Educator	Student
Partner involvement	Little to no feedback	Weekly communication
Off-campus meeting?	No	Yes
Peer assessment?	Yes (voting/competition)	No
Complexity of project	Not complex (one component)	Complex (multiple components)
Who communicates with the partner?	Educator	Student
Who wraps up the project?	Educator prepares student files for production	Student finalises work
Focus	Learning & applying skills	Applying & reflecting on learning

The educator has developed the following forms that relate to service-learning: one

for design requests, a brief to gather information from partners, a contract for pro-

bono services and a model release for photographs. C8E1 also uses two forms from

the Campus Compact Center—a service-learning report and an agreement for

community partners that outlines the students' responsibilities and contains a waiver

of liability and release.

Outcome

Both models have resulted in professional-quality designs for local organisations. The

difference, with regards to outcomes, relates mostly to project scope. The capstone

allows students to provide a more comprehensive creative service, like a branding campaign for a nonprofit, while the other model results in the production of one piece, like a flyer or a brochure, that meets an immediate need.

While there is on-campus support for service-learning at this institution, embedding it into the curriculum required a motivated educator who understood the value of the experience for students and was willing to invest the time needed to successfully manage projects, from start to finish.

7.2.9. Site 9: Public housing

Synopsis

Site 9 is an example of first-order design where the educator views service-learning as a form of social change. It was a grant-funded, public health project that partnered graphic design students enrolled in a 300-level subject called "Print Production" at Massachusetts College of Art & Design (MassArt) with the Harvard School of Public Health and the Boston Housing Authority. The design challenge was to create a guidebook that would educate public housing residents about healthy living in their new 'green' apartments, including instructions for how to use specific systems and/or appliances, like thermostats and dishwashers, which few residents had experience with. Since the audience had low-literacy levels and spoke two languages, the design team had to simplify and visualise complex information whenever possible, and make the content available in both English and Spanish.

Approach

The educator (C9E1) pre-qualified the community partner to make sure they had a budget for production, a dissemination plan and time to dedicate to the project. Then, the project team—a professor of public health, a staff member from BHA and a resident/advocate—came to class to explain the benefits of 'green' and healthy housing for families living in public housing. The class then went to visit the old and new housing, observing the living environments and interviewing families. After the initial meeting and field trip, students began working like a true design studio. They contacted vendors to get print estimates and divided up the work, which included visual research, grid design, photography, vector artwork, and copy editing. If they finished one job, they would move onto something else. There was no competition; it was a collaborative effort. Each week, one student acted like the client liaison and emailed questions to the community contact.

Outcome

At the end of the semester, students presented one well-developed design to the partner. The solution was a spiral-bound book with sticker sheets and pull-out cards that explained specific processes. The public health professor thought the final solution was a community-appropriate, high-quality design. Participating in the project helped him realise the value of design. Feedback indicated that the experience was also valuable for students, but not all students were proud of the design, aesthetically speaking. C9E1 believed the project was valuable for students, since they gained experience working in a group and seeing a project through production. Producing substantial print collateral like this for nonprofit organisations required a

community partner with a grant-funded project, an educator with patience and persistence, and design students who were engaged and empathetic.

<u>7.2.10. Site 10: Chair auction</u>

Synopsis

Site 10 is an example of first-order design where the educator views service-learning as a charity. It involved a 'Chair-ity' auction that was planned, promoted and hosted by a group of interior design students at Gateway Technical College, a two-year institution in Kenosha, Wisconsin (USA). The students refurbished chairs and other furniture items for the auction, which started in 2002. Every year, the students select a different, local nonprofit organisation to partner with. Proceeds from the event benefit the charity and the school's student chapter of the American Society of Interior Designers (ASID).

Approach

Event planning is a group activity, while the design of chairs is an individual task. The planning committee consists of the ASID officers and the educator (C10E1). The committee is responsible for meeting with the chosen charity, soliciting items from local businesses for the silent auction, working with local vendors to get food and drinks, and publicising the event.

For the past few years, chairs have been designed around a theme, which students and the charity determine together. Students acquire chairs from thrift stores, rummage sales, the curb, friends and family. They rescue the chairs, give them a fresh design, and transform them into sustainable, functional art. They might reupholster, paint, decoupage, or stencil. They have a "crash night" workshop, during which the educator demonstrates how to use the sander, compressor and staple gun. She advises students to consider both form and function. In preparation for the auction, students give their design a name and put a card with it that explains the creative concept and/or the connection to the theme.

Outcome

In 2012, the event attracted approximately 120 people. Twenty-four students submitted chairs for the live auction, and twelve were selected for the silent auction. Successfully hosting this auction required the stewardship of a director, a selfless planning committee, and support from the community. The committee members were persistent and patient, paying careful attention to details. The event took months to coordinate, but yielded impressive results. For example, the student chapter won "Charity of the Year" in 2009 from the ASID. While the auction is not part of a design subject, it involves students applying what they've learned in class and acquiring additional skills under the supervision and guidance of a design educator.

Synopsis

Site 11 is an example of third-order design where the current educators view service-learning as an opportunity to develop students as citizen designers. It is about Design Corps, a subject that operates like an on-campus design firm at the Pratt Institute in New York City, New York (USA). Third- and fourth-year Communication Design students provide pro-bono creative services to nonprofit organisations from across the country under the direction of two professors. It started in 1991 to help organisations that need good design but don't have money for it. The current professors (C11E1 and C11E2) took over in 2005 and refer to themselves as the "creative directors" of Design Corps.

Approach

Design Corps functions as closely to a design firm as possible in a classroom setting during a 15-week semester. Students complete an application to give them a taste of what it's like to apply for a professional design position. And community partners complete an online application that captures information about their organisation, competitors, their design needs, desired deliverables, project specifications, important dates, production budget, vendors and the approval process. Once the partners for a semester are chosen, the directors work with them to determine the deliverables. In the past, students have designed logos, letterhead, brand guidelines, and a range of collateral, including brochures and websites. Before the first client meeting, students are given the design brief. Then, a client representative(s) comes on campus to discuss their organisation's needs and answer

any questions that the students have. Students work individually and collaboratively to complete projects. They communicate with clients and vendors, pitch ideas, have internal reviews, make revisions, present design options and final solutions, provide finished files, and monitor the production of final designed pieces.

Outcome

Design Corps is managed in such a way that the community partners always receive the final designs, post-production—whether that's a printed brochure or a Web site. The directors' professional experience helps to ensure successful outcomes and helps them nurture a studio environment with limited time and resources. Students not only get a chance to give back to the community, but they also get experience working with a client. Partners have to be dedicated to the project and realise that this is an educational experience for students.

7.2.12. Site 12: South Africa

Synopsis

Site 12 is an example of fourth-order design where the educators have a project view of service-learning. It is about an international field study that 42 students from the Social Enterprise Institute (SEI) at Northeastern University in Boston, Massachusetts (USA) did in South Africa during July 2013. They worked with local business owners to deliver sustainable and socially responsible solutions to a variety of challenges facing their businesses.

Approach

Students from business, communication studies, international affairs, and anthropology prepared for the trip by studying social entrepreneurship, international development, microfinance, small business management and design thinking before transitioning into the field. While in South Africa, SEI students collaborated with disadvantaged students from a free, local business school to form consulting teams. They partnered with twenty-two entrepreneurs in the Cape Town area. They first analysed the businesses and then worked on a 'design thinking' project to create innovative solutions to the problems they had discovered. A human-centered design approach was taken because it combines inductive and deductive reasoning to focus on 'what could be' and because it would help SEI students develop empathy with South Africans. After a two-week consultation period, they presented their recommendations to peers and a panel of judges, including the professors and business owners.

Outcome

All of the business owners wanted to implement the proposed ideas but weren't in a financial position to do so. Anticipating this, before the trip, students did a fundraising campaign for the SEI projects and raised nearly $13,000 USD so that some of the businesses could turn their ideas into action. After the trip, four enterprises were selected to apply for a micro-venture fund. This seed funding was intended to help the businesses grow and thus affect as much change as possible in the township communities. A portion of the funds was also used to create a scholarship for South African students to attend the local business school.

The field study provided students with a learning experience that opened their eyes to different cultures and social problems. The human-centered design project gave them an opportunity to be civic-minded, and then the micro-venture funds helped to propel this work into the third mindset, which allowed service-learning to be a form of social change.

7.3. Summary

The summaries in this chapter provide a brief overview of each individual site to build context for the analysis in chapter eight. They reflect the diversity of partnerships and their institutional context. While the results point to some of the differences between the twelve sites, there were also similarities with regards to planning, partner involvement, design process and outcomes. The sites illustrate how SLIDE works in practice. The next chapter is a more in-depth discussion of the sites in relation to the theoretical framework.

Chapter 8. Phase two: Analysing the results of case study research

8.1 Emergent themes

After analysing data from case study research, themes emerged around the nine areas of capability for designers, the four orders of design, the three service-learning mindsets, and the various roles that stakeholders play during the partnership. Four distinctly different teaching models also became apparent and are discussed in this chapter.

The theoretical framework (i.e. SLIDE matrix) was used as a lens for analysing the results. The sites were organised by design order and then by service-learning mindset. Similarities and differences were observed across these categories. This concept-driven path focuses on understanding the explanations that underpin SLIDE and learning the extent to which the theory fits the data and visa-versa. This section, therefore, has a comparative structure (Yin, 2009), which repeats sites from the case study to relate the results to theory and compare alternative explanations. Significant statements were selected from educator interviews, student feedback and partner feedback to exemplify the emerging themes.

The results furnish examples of specific ways that service-learning helped design students build competence in each of the nine areas discussed in the second chapter. This section examines the bounded system from yet another angle to better understand techniques for developing students as designers.

Since service-learning in design is a task-oriented form of collaboration which involves working together towards a shared goal or outcome, an understanding of the roles that stakeholders play during the joint activity could help to improve practice. In

effective collaboration, equality with regards to contribution and mutual respect are important factors in determining the quality of the partnership. While analysing the results, the researcher examined the nature of the roles and responsibilities that design students, design educators and community partners have.

The following discussion is about the findings in relation to the theoretical framework for this study.

<u>8.1.1. Themes by designer capabilities</u>

As discussed in chapter five, the results of a survey with design educators revealed that service-learning is a good way to build capability in design students. Case study research added the student perspective to this finding.

The results of an email survey with students confirm that service-learning can build capability in each of the nine areas. In the survey, a five-point rating scale was used to measure students' opinions about the helpfulness of service-learning in developing competency in each area. The Likert responses from 53 participating students, representing 10 of the 12 sites, were collated, and the average ratings were calculated. The weighted mean values range from 3.404 to 4.656. The distribution of the perceptions of respondents is listed in Table 8.1 in descending order. The majority of students found service-learning to be "extremely helpful" in understanding the contextual forces that shape a project. Ethical practice had the lowest rating but was still regarded as being "somewhat helpful."

Table 8.1. Student ratings of how helpful SL is in building capability in each area

	Areas of Capability	Weighted Mean
1	Understanding contextual forces	4.656
2	Solving communication problems	4.096
3	Building arguments for solutions	4.020
4	Using tools & methods	3.867
5	Working in multi-disciplinary teams	3.738
6	Problem finding	3.726
7	Developing empathy	3.639
8	Systems-level thinking	3.444
9	Practicing ethically	3.404

The bar graph in Figure 8.1 compares the average ratings of participating students'
and educators' perceptions of how helpful service-learning is in developing capability
in each area. Both groups rated "understanding contextual forces" as the most helpful
aspect of service-learning.
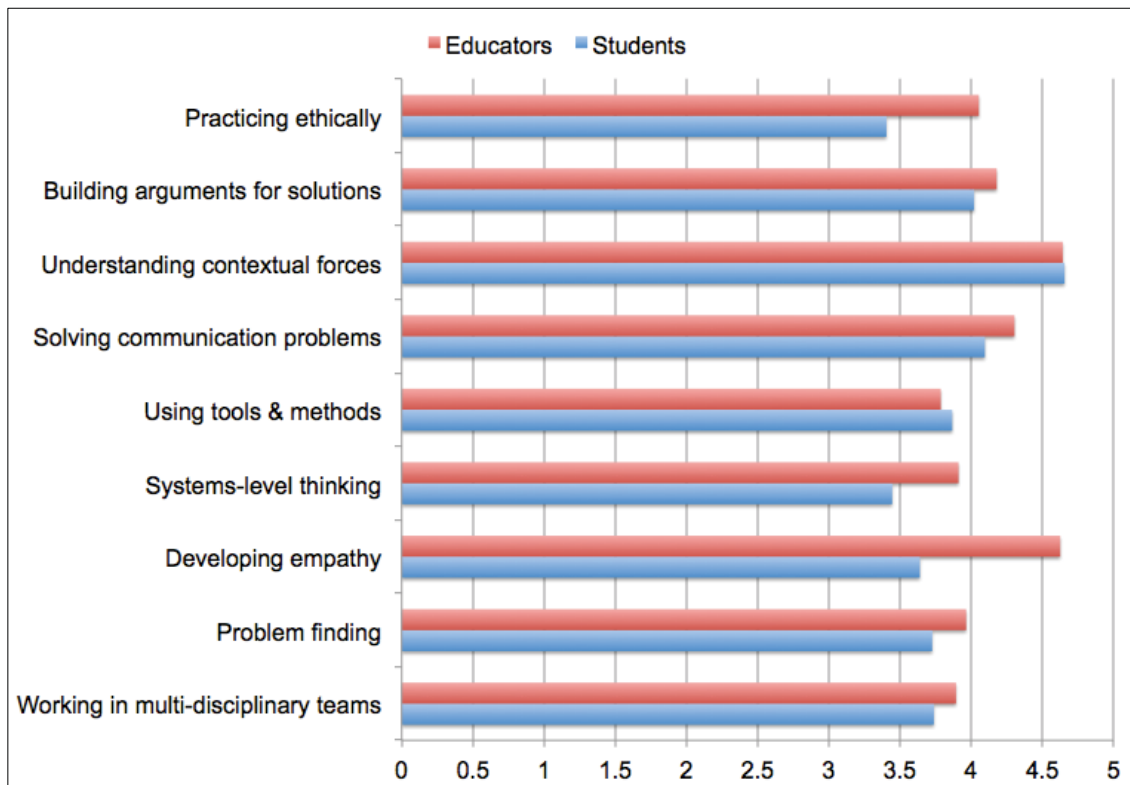
Figure 8.1. How students and educators perceive the benefits of service-learning

The variance between the two groups is small for all but two areas – "developing empathy" and "practicing ethically." Educators believe that service-learning is significantly more helpful than students in developing empathy, with an average of 4.625, compared to the students' rating of 3.639. They regarded it as one of the most helpful aspects of service-learning, surpassed only by "understanding contextual forces." Educators also rated "practicing ethically" higher than students, with an average of 4.054 compared to the students' rating of 3.404. The average ratings of educators are higher than students for all but two areas – "understanding contextual forces" and "using a variety of tools and methods." While there are differences between the two groups, overall, both see service-learning as an effective capability-building activity.

After comparing the educators' and students' perceptions of SL, the researcher identified the specific methods or approaches that were utilised at each site to build capability. These were derived from the results of student surveys, educator interviews, document analysis and artifact analysis.

Table 8.2 provides answers to the following questions:

1. How do students work in multi-disciplinary teams during SLIDE?

2. How do students gain experience finding problems during SLIDE?

3. How do students learn to develop empathy with clients and users during SLIDE?

4. How do students get experience with systems-level thinking during SLIDE?

5. What sort of design tools and methods do SLIDE students utilise?

6. How do students learn to solve communication problems during SLIDE?

7. During SLIDE, how do students realise the significance of contextual forces in shaping a project?

8. How do students learn to justify their design decisions and explain the value of design during SLIDE?

9. How can ethical practice be emphasised during SLIDE?

As evidenced by the table, a range of techniques were used across the sites. For example, the various ways that students learned about the contextual forces that shape a project include budget constraints, material constraints, conversations with community partners and users about complex social issues, observation (during field trips or site visits) and the approval process. Contextual forces vary depending on the partner and their design needs, but SLIDE did give students an opportunity to learn about the social, technical, environmental, cultural and economic factors that influence a project.

Table 8.2. How service-learning developed capability in nine areas

	Working in multi-disciplinary teams	Problem finding	Developing empathy with stakeholders	Systems-level thinking	Using a variety of tools and methods	Solving communication problems	Understanding the contextual forces that shape a project	Building arguments for proposed solutions	Practicing ethically
Site 1	Undergraduate and post-graduate students from design and information science collaborated with elementary students, teachers, parents, and medical professionals	Conducted design research to discover issues with existing material and discover opportunities for design	Co-design (e.g. developed game concepts with children)	Had a strategy for community-wide change: Early intervention with children would positively affect families and ultimately communities	User research, prototype testing, tracking changes in behavior, game, Adobe CS, game design	1) How to engage children in co-design. 2) How to educate children and their families about healthy eating.	Considered the messages that children were getting at school, at home and at the doctor's office. Worked with constraints of a grant-funded project.	Feedback from children helped to refine concepts, making them both educational and entertaining for kids	Recorded data, IRB: working with human subjects, asked research participants to sign consent forms
Site 2	An individual project, but collaborated with a nonprofit in the local community	Students had to identify their own community partner and interview them to discover an opportunity for design	Met with the partner off-campus to observe the environment (optional)	N/A	Brainstorming, making lists, sketching, CAD, prototyping, ShopBot for scale models, class critiques	N/A	Considerate of the context of use, had to work with a material constraint	During one-on-one meetings with the professor	Tensions b/w form and function: students had to address a community need but wanted to create a strong piece for the portfolio review
Site 3	Design students worked along side aphasia sufferers, their carers, and a speech-language pathologist	Students were responding to a RSA design brief, but they had enough flexibility to do some problem finding	Co-design (e.g. listened to stories of experience from Aphasics)	Developed a collection of concepts to improve services	User research with Aphasics and carers (e.g. workshops, cultural probe), used a blog to share research, reflect and get feedback on ideas, attended a support group's meeting (optional)	1) How to involve Aphasics in co-design. 2) How to raise awareness of aphasia and help sufferers communicate with others.	Considered the difficulties that users face when communicating in a social context. Worked with constraints of a grant-funded project.	Students had to document their process for a NHS grant and presented their work at a public exhibition	Got approval to do research with human subjects, did not disclose participant's identity on the blog or in papers
Site 4	Graphic design students worked in groups to develop a campaign, but each student was responsible for a component	The educator wrote the brief, but students got to ask questions during a client meeting	Met with the organisation's director, heard stories about homeless men, women and children	Viewed a campaign as interconnected components	Research, concept development, present ideas, plan and participate in a publicity stunt	How to attract new volunteers to help with specific services	Learned about the complex social issue of homelessness	Developed a presentation to explain their process and concept to a panel	Understanding homelessness so to represent it in an appropriate way
Site 5	Students first worked individually to design the logo, then collaboratively to build the Web site	The educator wrote the brief, but students got to ask questions during a client meeting	Met with the founder. Went off-campus to a job site to observe, photograph and meet with ex-offenders (optional)	Learned about the prison system and the cycle of re-offending	Logo development, Web publishing skills, planning and prototyping, creating original content (text and photos), social media integration, presenting work	How to best represent the organisation visually and verbally online	Learned about the challenges that ex-offenders face when trying to secure employment and the effects that re-offending has on families, the community and the economy	Presented logo options to the founder and trustees	Some students were presented with an ethical dilemma: Will you design for a client if you don't support the organisation's mission?
Site 6	Students from Communication Design, Industrial Design, Interior Design and Multimedia worked in groups	Students were introduced to slave-making processes during a meeting and were asked to challenge conventional thinking and approaches in order to bring about change	Met with the director to learn about four forms of slavery—forced marriage, child labour, child soldiers and labour trafficking. Developed personas. Acted out 'use-case' scenarios.	Students were asked to think about modern slavery in Australia from a systems view in relation to business and the design industry	Mapping a system, developed personas, touchpoints, scenarios, user journeys, iterative prototyping, conceptualising interventions to bring about systems change	How to discuss the sensitive topic of slavery in tangible solutions, like awareness campaigns, or intangible ways, like community-based processes	Considered different engines that enable slavery: poverty, powerlessness, crime and conflict. But part of the design challenge was to break away from current behavior and imagine an alternative future	Students delivered a final group presentation to an assessment panel and submitted an individual workbook	Approaching slavery in a human-centered way
Site 7	Students from Communication Design, Digital Art and the Individualised Degree Program worked in groups	Students worked with their community partner to determine the best way to prepare for the Denver Biennial, students authored the design brief and discovered the need to brand the start-up	Met with the founder and his assistant to discuss their needs (Q&A), some students participated in a design charrette that the partner hosted (optional)	Students learned about the partner's strategy to convert existing buildings in an urban setting into fully sustainable communities	Brainstorming as a group, weekly status updates, applying design thinking to tell stories and create experiences, created mock-ups of design concepts, used a blog to share process work	How to inform people about the sustainable urban redevelopment project and inspire them to participate in its mission	Gained an understanding of the challenges that a non-profit start-up faces (e.g. managing a budget) and learned about the benefits and challenges of urban redevelopment and sustainability	Students developed final presentations that explained the purpose of a concept, the role it would play and what it would allow users to do. They presented to the educator and community partner.	If students continued working with the partner after the semester, they got credit for an internship

	Working in multi-disciplinary teams	Problem finding	Developing empathy with stakeholders	Systems-level thinking	Using a variety of tools and methods	Solving communication problems	Understanding the contextual forces that shape a project	Building arguments for proposed solutions	Practicing ethically
Site 8: Model 1	An individual project, but collaborated with a small nonprofit in the local community	The student found a client, met with them, discovered their design needs, determined the scope of the project, and wrote the proposal	Had regularly meetings with the partner off-campus at their office	Made the student think about how a design functions in a nonprofit organisation	Managed client communication, logo development process, reflective writing	How to effectively communicate with donors and volunteers	Dealt with a board to get approval, researched production costs, had to manage expectations of staff at a small nonprofit who knew little about design	Developed a brand manual to help the nonprofit implement the design	Expected to conduct the real-world project with professionalism, thus used a model release form and pro-bono contract
Site 8: Model 2	An individual project in the classroom	Educator met with the partner (on-campus health clinic) and authored the design brief	The students were part of the target audience	N/A	Adobe Creative Suite	How to discuss sexually transmitted diseases with Christian students	Got feedback from the partner regarding the appropriateness of the solutions	Students voted to determine the winning design	The educator had the partner review and sign forms about working with design students before the project started
Site 9	Students collaborated in the classroom (design team) and in the community (with staff from the Housing Authority and with a professor of public health)	Students got to ask the community partner questions about the project during a kick-off meeting before going off-campus	Students visited the old and new housing, took photos and videos, and interviewed residents	Students learned about the public housing system and benefits of green living—saving energy, keeping homes clean and safe, and keeping homes free of pests and mold.	Visual research, audit of existing material, requesting print estimates, photography, vector artwork, copy editing, press check (optional)	How to make complex information about 'green' living accessible both visually and verbally for public housing residents with low-literacy levels in two languages— English and Spanish.	Had to work with a production budget that was part of a grant-funded project. The challenges of bi-lingual design. Considered the context of use.	The group presented one well-developed design to the partner	Students were expected to produce a high-quality design that was appropriate for residents
Site 10	Club officers formed the planning committee. Design students worked individually on chairs.	Students were responsible for finding chairs and other furniture items in need of refurbishment.	Members of the planning committee went to the nonprofit to learn about the organisation and discuss a design theme	The committee developed an event plan	Planning meetings, used a sander, compressor, and staple gun to reupholster, paint, decoupage, stencil and adorn chairs	How to promote the chair-ity event in the local community	The committee learned about the factors that can affect fundraising (e.g. economy)	Students named their design and explained their creative concept on a card that was displayed with their chair at the event	Students transformed used furniture into sustainable, functional art. Proceeds benefited a charity and a design student club.
Site 11	Communication Design students worked both individually and collaboratively in groups	Educators determined the deliverables after reviewing the client's design brief, but students were given enough flexibility to discover opportunities for design during the first client meeting	Students learned about the client's needs during the on-campus meeting.	The design brief asked the client to specify if the project needed to work within an existing set of brand guidelines or within a larger system or in conjunction with another organisation, or if it will be the basis for a system or series.	Conducted design research, brainstormed concepts, pitched ideas, had internal reviews, presented options, made revisions, provided finished files, monitored production	Every deliverable involves solving a communication problem between a nonprofit organisation and their target audience.	How to work with a budget and production team, whether it's for printing or web development. Other contextual forces varied, depending on the client. Past projects have dealt with environmental issues, educational programs and social services.	Pitched ideas and presented design options to their client	Students use their skills in the service of a good cause while getting professional experience, which includes applying for a position with DesignCorps and learning about contractual agreements with clients
Site 12	SEI students from Business, Communication, International Affairs and Anthropology collaborated with South African business school students	Meeting with business owners	Met with business owners, interviewed townspeople in South Africa (human-centered design research)	Seed funding was intended to help small businesses grow and thus affect community-wide change	Consulting meetings, planned and conducted user research, consolidated findings, developed recommendations, maintained a blog	How to recruit and interview participants for user research	Visited businesses and historical sites in the Cape Town area, attended lectures from local historians, politicians, journalists, researchers and venture capitalists.	Presented a consulting deliverable to peers and a panel of judges	Students strive to deliver sustainable and socially responsible solutions for small business owners, raise seed funding to help these businesses grow
Pilot	Students majoring in graphic design, communication and fine art conducted research in groups, but designed individually	The educator determined the deliverables, but students asked questions during the first client meeting and wrote the proposal	Visited the site and learned about their programs and members during a tour of the facility	Discussed how the local clubs are part of a regional organisation that's part of a national brand	Online research, class critiques, sketching, Adobe AI & PSD, presentation boards	How to get prospective donors to attend a fundraising event or support a program	Discussed how the organisation operates during the client meeting, design solutions were considerate of production costs	Each student presented their work to the community partner, wrote a description of their concept	Had permission to use photographs of members (minors), had to create original artwork, provided consent for partner to use student work
	Working in multi-disciplinary teams	**Problem finding**	**Developing empathy with stakeholders**	**Systems-level thinking**	**Using a variety of tools and methods**	**Solving communication problems**	**Understanding the contextual forces that shape a project**	**Building arguments for proposed solutions**	**Practicing ethically**

The results of the student survey were also grouped by design order and by the service-learning mindset of the site's educator. The star plot diagram in Figure 8.2 visualises the quantitative results by design order. While qualitative feedback was gathered from five students at second-order sites, only one of them completed the survey, which explains why the data is positively skewed.
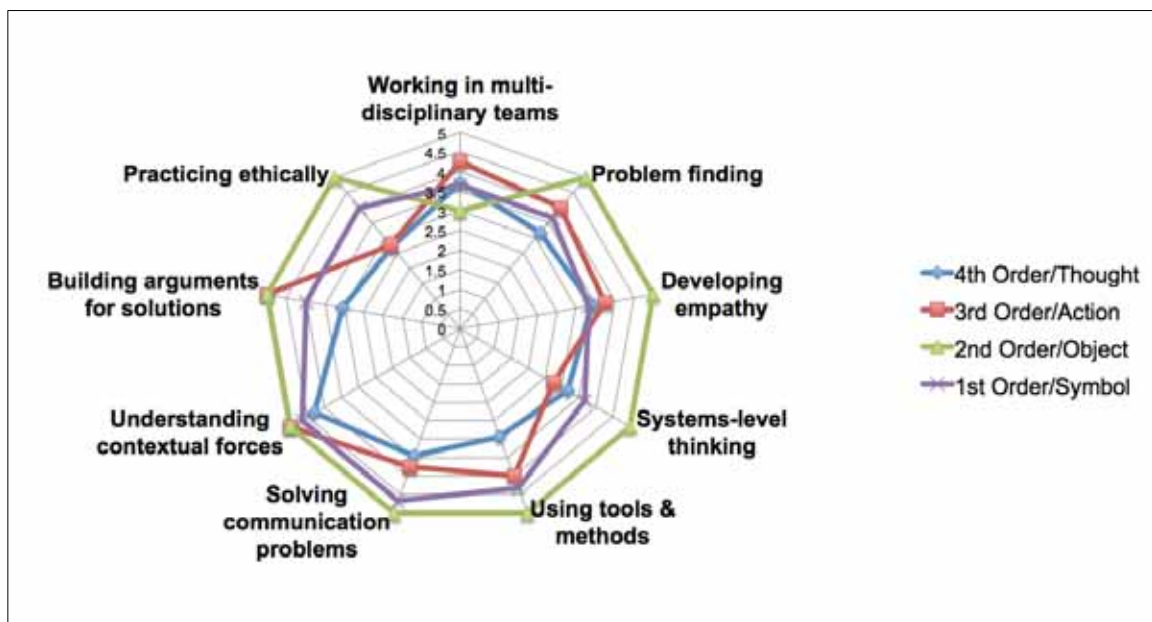
Figure 8.2. Student-reported benefits by design order
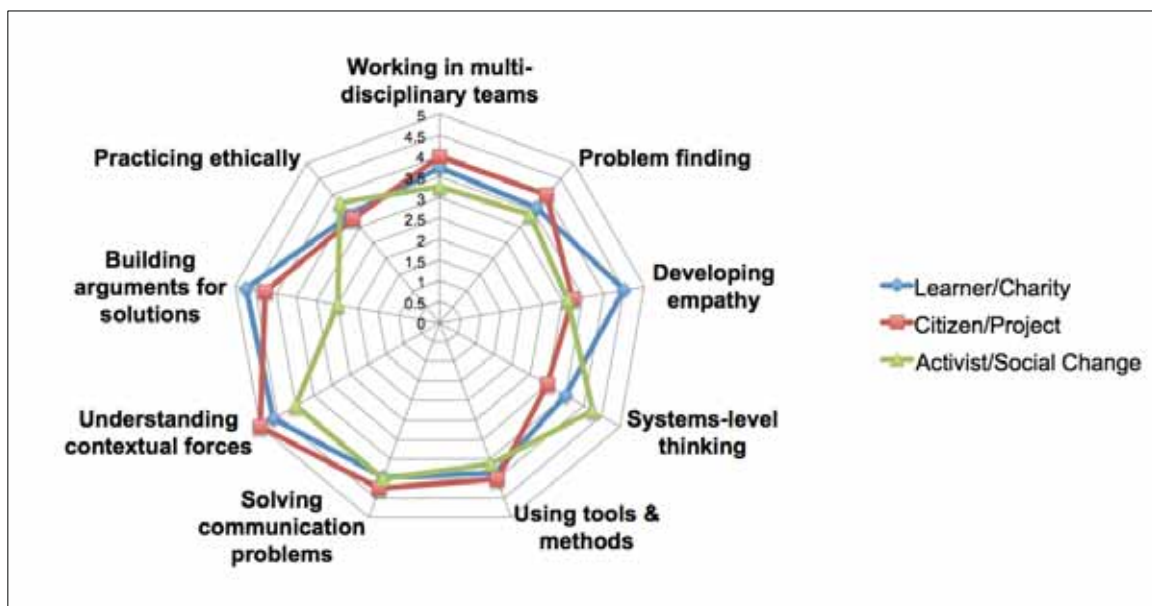
Figure 8.3. Student-reported benefits by service-learning mindset

When grouped by service-learning mindset, shown in Figure 8.3, there was a more balanced sample. After looking for patterns in the data, some themes emerged. The average ratings by service-learning mindset are listed in Table 8.3. For several mindsets, there were outliers, or areas where those students found SL to be more or less helpful than students with the other mindsets.

Table 8.3. Students' average ratings by service-learning mindset

	Learner/ Charity	Citizen/ Project	Activist/Social Change	Overall Mean
Working in multi-disciplinary teams	3.713	4.000	3.250	3.738
Problem finding	3.593	4.000	3.375	3.726
Developing empathy	**4.500**	3.250	3.125	3.639
Systems-level thinking	3.500	3.000	**4.250**	3.444
Using tools & methods	3.850	4.000	3.625	3.867
Solving communication problems	3.953	4.250	4.000	4.096
Understanding contextual forces	4.633	5.000	4.000	4.656
Building arguments for solutions	**4.727**	4.250	2.500	4.020
Practicing ethically	3.380	3.250	3.750	3.404

Students at charity sites rated "developing empathy" (4.500) significantly higher than students from the other mindsets. This deviation from the overall mean of 3.639 raises a couple questions. Why do students feel this way? How did they empathise with stakeholders? The list below indicates some of the specific ways that empathy was developed in the charity mindset:

- Meeting face-to-face with the organisation's director,

- Hearing stories about service users and their reality,

- Going off-campus on-site to observe, photograph and meet with service users,

- Developing personas, and

- Acting out 'use-case' scenarios.

The next outlier is regarding systems-level thinking. Students at activist sites rated systems-level thinking (4.25) higher than the other mindsets. Again, why is that and how were students introduced to this way of thinking? Specific ways that students engaged in systems-level thinking in the social change mindset included:

- Students learned about 'models of change' and discussed strategies for achieving community-wide change,
- Students were given the freedom/flexibility to develop a collection of concepts (i.e. deliverables weren't pre-determined),
- Students learned about the partner's strategy and desire for sustainability,
- Students learned about the systems that affect the partner's mission

The area where the values deviated most from the overall mean of 4.020 was regarding the use of SL to build arguments for proposed solutions. Students at charity sites rated "building arguments" 4.727, whereas students at social change sites rated it 2.500. Why did students at charity sites find SL to be so helpful in this area? And why did students at the social change sites rate it so low? Variables affecting this include project length and scope. Students involved with shorter projects at charity sites prepared and delivered presentations to the community partner, and thus gained experience explaining the rationale behind their work. With longer, grant-funded projects at social change sites, students were only involved in part of the process, and reporting was the responsibility of the educator.

This section provides a more in-depth analysis of the results in relation to service-learning theory.

Furco (1996) and Holland (2011) regard service-learning as a balanced approach on the spectrum of experiential learning (i.e. there is a balance between learning goals and service outcomes). Case study research revealed imbalances between the three mindsets, which aligns with Sigmon's (1994) typology of service and learning. His four types are applied to the sites in Table 8.4.

Table 8.4. Observed relationships between service and learning at the sites

Orders of Design	Service-Learning Mindsets		
	Learner/Charity	Citizen/Project	Activist/Social Change
4th Order	SITE 6: service-LEARNING	SITE 12: SERVICE-LEARNING	SITE 1: SERVICE-learning
3rd Order	SITE 5: SERVICE-LEARNING	SITE 11: SERVICE-LEARNING	SITE 7: SERVICE-learning
2nd Order	SITE 10: service learning	SITE 2: service-LEARNING	SITE 3: SERVICE-LEARNING
1st Order	SITE 4: SERVICE-LEARNING	SITE 8: service-LEARNING	SITE 9: SERVICE-learning

These types are about different relationships that exist between service and learning. They are explained in the following sections.

Learner/Charity

The learner/charity examples were Site 4 (Homeless), Site 10 (Chair Auction), Site 5 (Branded) and Site 6 (Slavery). With this mindset, one would expect the sites to be examples of service-LEARNING, in which a service component is added to a project to contextualise learning for students. However, Slavery was the only charity site where that relationship was observed. The educators at Homeless and Branded worked hard to place equal weight on service and learning, thus resulting in a SERVICE-LEARNING relationship. At Chair Auction, service and learning were both part of the process, but they were viewed as distinct and separate (i.e. service learning).

While discussing criticisms for each of the service paradigms, Morton (1995) argues that the charity mindset involves doing service for those with deficits in a given area. For example, at Branded, the organisation needed a Web site and did not have the ability to create one in-house, so that was the service provided. The risk of charity-oriented service-learning in design is that the creative service might meet an immediate need, but does not provide a sustainable solution. Homeless and Slavery are both charity examples, but they are also examples of sustainable partnerships between the university and the community. At Slavery, the service being provided was more about the innovative ideas that students proposed and less about a technical skill. At Homeless, the partner actually has a designer on staff, so the partnership hasn't led to long-term dependency on students, rather it's elevated the quality and effectiveness of their campaigns. In the creative industry, doing creative service for those with a deficit is how most design firms operate. Designers service clients that don't have the capability in-house. Most agencies want long-term dependency, not

skills transfer or for the client to hire someone with that expertise. This raises the question, does that same goal apply in design education. Do educators want long-term dependency?

There were a few emerging themes with the learner/charity sites. At Homeless, Branded and Slavery, the educators asked the community partners to view their role as that of co-teaching and outlined what it would mean to work with students. The educator at Branded, for example, explained to the founder and trustees that this was "a learning experience for students; it's not just about the outcome." (C5E1) At Homeless, the director understood this responsibility and was happy to be a part of that learning journey. He was willing to "participate in teaching" and provide a dedicated team that would be available to students (C4P1).

The learner-students who participated in this study rated "developing empathy" higher than students from the other mindsets. At Branded, a few students went on site to meet and photograph ex-offenders. At Homeless, the educator encouraged students to volunteer at the shelter to help them develop empathy with stakeholders. One student regarded this activity as part of design research:

> We threw ourselves headfirst into research, including a day spent helping with outreach and at the day centre. It taught us some valuable lessons, namely that rarely is it a homeless person's 'fault' that they have ended up on the streets. More often than not, life just hasn't been fair — ex-servicemen, orphans, and victims of abuse; vulnerable individuals who for a variety of reasons have been allowed to spiral out of control and slip into the deep-pit that is homelessness. It was this feeling of lacking control that we decided to focus on in our outcome, appealing to that deep-rooted childhood sense of right and wrong. (C4S2)

These activities helped the students step into someone else's shoes and shift their perspective and required the cooperation of the partner. One of the learning objectives in the Homeless subject is about studentship, which the educator sees as engagement

with the client, their staff and the student's team. For one student, this learning objective was clearly met:

> Design is not just about making something beautiful – it can be used effectively as a tool to make a real difference to people's lives… It really brings home the fact that you are designing for an audience, and that, no matter how beautiful, your designs are useless if they do not engage with and speak to your target audience." (C4S1)

The students who were seen as learners also rated "building arguments" higher than the other mindsets. One way that students built arguments for proposed solutions was by preparing a presentation. Each of these sites involved students giving a formal presentation to a panel, including the partner and educator. At Homeless, Branded and Slavery, this was in the form of a group presentation, whereas at Chair Auction, this was in the form of student work on display at a public event.

Another theme was that all of the project timelines were fairly short, lasting anywhere from six weeks to one semester (plus a planning phase). The design challenges were therefore confined to a specific program/event or a particular problem. The briefs were developed before the class project started and the creative process was clearly outlined from the beginning. A benefit of this for students is that it gave them experience with a tried and true process that could be replicated with future projects.

In summary, charity sites involved design challenges that were confined to a specific problem intended to be solved during a fixed period of time. This reduced the risk of creating long-term dependency. Learner-students developed empathy by engaging with stakeholders, who regarded their role as that of co-teaching. Students then had the information necessary to build strong arguments for proposed solutions.

Citizen/Project

The citizen/project examples were Site 8 (Two Models), Site 2 (Contest), Site 11 (Agency) and Site 12 (South Africa). With the project mindset, educators of the lower-order examples (Two Models and Contest) made the learning goals primary and the service outcomes secondary, while the service and learning goals were of equal weight with the higher-order examples (Agency and South Africa).

Morton (1995) argues that the project mindset regards service as using problem-solving skills that non-experts cannot master but have access to, but ignores the cause of the problems. This conflicts with student feedback from case study research. For students who were regarded as citizen designers, they rated "problem finding" and "understanding contextual forces" higher than the other mindsets. According to a couple of educators, however, students were uncomfortable with the fuzzy front-end and needed encouragement to have faith in the process. At Contest, for example, each student had to interview his/her partner and observe the environment to discover an opportunity for design and then develop a furniture solution to meet the identified need. At South Africa, consulting teams interviewed business owners and prospective users to discern issues and opportunities. They used that knowledge to make informed decisions. Through service-learning projects, these partners had access to design, which they otherwise wouldn't have had, but they also had a deeper understanding of the reasons why the problems existed.

Geographically speaking, the distance between the university and the community partner at the citizen/project sites increased from first order to fourth. At Two Models and Contest, the community partners were either on-campus service providers, like the counseling center and health clinic, or local nonprofit organisations, like

elementary schools and a shelter for at-risk youth. At Agency, the partners were nonprofit organisations located across the country—from New York to Texas. At South Africa, the community partners were in a different country. Why was there more distance between students and partners as the design order increased? The reasons vary. At Two Models (first order), the educator believes that an on-campus partner works well because you have good access, so it's easy to get information and feedback in a timely manner. At Contest (second order), the educator has intentionally kept the focus local, because he believes that there are enough design needs in the local community to sustain the project for years to come. At Agency (third order), the directors aren't concerned with location as much because they have an online application process for partners. As a result, they try to balance the nature of the work and the kind of components that students will be designing. At South Africa (fourth order), they work with a business school to give their disadvantaged students access to opportunities and with small business owners to bring different perspectives to their work and help them grow.

The educators' motivations for forming university-community partnerships were centered around the idea of 'giving back' to the community and giving students professional experience (Crawford, 2008). The mission of Design Corps, for example, is to provide pro-bono creative services for nonprofit organisations while giving students the opportunity to help a good cause and get experience working with a client. The educators at South Africa want students to see how investing in people can foster new businesses and lead to prosperity for entire communities. The educator at Contest started the community-centered design competition to bridge the town-gown gap (i.e. be a good neighbor) and thought it was a good fit for the sophomore studio. At Two Models, the educator's motivation for practicing service-learning stems back

to her career in the creative industry. While interviewing recent graduates for entry-level positions, she would see "fun, make-believe projects" in their portfolio and noticed that they lacked experience communicating with clients (C8E1). When she started teaching, she decided to offer real-world projects as a way to give students experience with client communication and working with constraints.

Another observation at the citizen/project sites was that participants used professional titles to describe their roles during service-learning. Community partners were seen as the "clients" at Two Models and Agency. The educators at Agency call themselves the "creative directors" of the program, and an educator at South Africa is the "executive director." The educator at Two Models refers to herself as "art director" during class projects, because she believes that it changes the dynamic of the relationship with students. One of her students referred to himself as a "freelance designer" (C8S1). An Agency student described her role as that of an "apprentice" (C11S1), while a student at South Africa referred to himself as a "consultant" (C12S1). This terminology comes from the fact that the educators all had significant professional experience, ranging from ten to twenty-five years, and they see the university-community partnership as being very similar to the designer-client relationship. At Agency, students even go through a job application process.

Activist/Social Change

The activist/social change examples were Site 9 (Public Housing), Site 3 (Aphasia), Site 7 (Urban Redevelopment) and Site 1 (Health Literacy). Three of the four examples of social change (Health Literacy, Urban Redevelopment and Public

Housing) focused on the service agenda or need over the learning objective (i.e. the methodology was determined by the situation). While Aphasia challenged students to listen and learn from the partners, the service and the learning were balanced.

Morton (1995) believes the social change mindset requires the support of stakeholders at all levels in order for systems-level problems to be corrected and for transformation to happen. The students who participated as activists rated "systems-level thinking" and "practicing ethically" higher than the other mindsets. Students at Public Housing learned about keeping homes clean, safe and free from pests, and how to use energy-efficient systems and appliances from a public health professor and a staff member at the Boston Housing Authority. They also learned about the systems-level problem from a very different stakeholder group with regards to socio-economic status— public housing residents. This opened their eyes to some of the design challenges, like having a bi-lingual target audience with low-literacy levels. Students at Aphasia learned about the impairment from aphasics, their carers and a therapist and observed how it affected people in public settings, like a cafe. Students at Urban Redevelopment learned about sustainability and the idea of retrofitting existing neighborhoods to make them more energy efficient through meetings with the LCB founder and a design charrette with people from one city block. At Health Literacy, the design team considered many facets of obesity—behavior at home, at school and during well visits—and involved a range of stakeholders—children, their families, teachers, physicians and professors from information science. At all social change sites, stakeholder groups included partners who brought the voice of intent and users who added the voice of experience. Each of these sites gave students the opportunity to interact with community partners and service users off campus, in hopes of helping them develop empathy with stakeholders.

Two of the four activist-educators (Health Literacy and Aphasia) described their approach as "co-design." While the educators at Urban Redevelopment and Public Housing didn't label their design process with this term, the community partners and/or service users were actively involved in the design process. The partner at Public Housing thought it was a valuable experience:

> It was very helpful to have the students interpret our messaging, since they provided a fresh look at the content and language… We were editing/refining the language that our 'public health team' had provided at the beginning of the semester (in other words, refining and re-thinking our own messaging)... We learned to focus on the clarity of message and functionality of the materials. (C9P1)

Co-design, formerly known as participatory design, is broadly defined by Sanders and Stappers (2008) as "collective creativity… applied across the whole span of a design process" that involves designers working with people who are not trained in design (p. 6). They claim that people with a high level of passion and knowledge in a certain domain, if invited to participate in the design process, can become co-designers. Educators did encourage their partners to participate. This is in line with Morton's idea of 'collective action' – engaging stakeholders and building relationship with them to understand the root cause.

The educators at all social change sites were highly invested in relationships with stakeholders and highly concerned with the root cause. They were passionate leaders with an activist mindset and a belief in design to make a difference. At Public Housing, Urban Redevelopment and Health Literacy, the educators initially piggy-backed with educators from other disciplines to join a grant-funded project team. Aphasia was also a grant-funded project, but the educator initiated that process on her own. Having funds in place was a pre-requisite for their involvement to ensure that

there was a budget for design. This pre-qualification of partners has reduced the risk of student work not being used, and in some cases (Site 1, Site 3 and Site 9), completely eliminated it.

In summary, activist-educators with high standards were the driving force in these grant-funded projects that engaged stakeholders for two reasons: to help students think about the design challenge from a systems level, and to allow community partners and service users to participate in the process of co-design.

Shifting mindsets

The above discussion describes the relationships that were observed between service and learning at the different sites. Since all but two sites were studied after service-learning, some additional observations were made post-project. In *The Irony of Service*, Morton (1995) clarifies that the goal is not to move students along the continuum (e.g. from charity to project), but to increase depth in a particular paradigm and expose students to creative dissonance. He claims that it is rare for a person to move from one paradigm to another, but this transformation was observed in a few sites. At Homeless, for example, the committed students that continued with the project during the summer break (post-semester) were more invested in the relationships with stakeholders and were more concerned with homelessness than they were prior to the experience. At South Africa, students that applied for the micro-venture fund were more invested in the relationships with entrepreneurs and were more concerned with their businesses than they were during the human-centered design project. Both of these examples had post-project processes in place to support

continued involvement. In Sites 3, 5 and 7, the opportunity to go on a site visit during the project was optional; the students who went, interacted directly with service users, which helped them develop empathy, and then they brought that learning back into the classroom. This highlights two different ways to get more deeply engaged— during a class project and after a class project. While these additional opportunities were made available to students, they were not required activities, and they were not part of the learning objectives for the subject. Further research is needed to investigate the benefits of these two approaches.

The educator's mindset didn't always align with the students' mindset. At Contest, for example, the educator was civic minded and some of the students had a learner mindset. At Public Housing, the educator had an activist mindset, but some of the students were only interested in learning about print production. One student explains why this was the case for her:

> We weren't told what the subject matter of the project would consist of upon signing up for the class, so my impetus for getting involved had nothing to do with the root cause. The class itself focused on elements of producing a piece of printed collateral of some kind, which was TBD at the beginning of the class, and following through all the steps from client interaction, to design, to getting it printed. I was interested in that process. I do think it was interesting subject matter to work with, but I think I was more interested in dealing with the challenges (things like organising two translations of the same material and how to clearly illustrate something like using a washing machine) rather than the direct subject matter, so I guess my concern was fairly low. I would have still taken the class had I known the subject matter in advance, though. (C9S1)

It speaks to the fact that when in school, students are more focused on developing their skills to build their portfolio. Feedback indicated that students found more value in the experience later. Once they started working as a designer, they realised that final solutions are often a compromise between business and design objectives.

<u>8.1.3. Themes by design order</u>

This sections analyses the results in relation to the four orders of design. In addition to discussing each order individually, some themes emerged around lower-order sites.

First-order Design

Buchanan (2001b) argues that first-order design focuses on invention and concept development to solve communication problems with symbols and images. At this level, designers regard users as passive receivers of messages. Examples of first-order design were Site 4 (Homeless), Site 8 (Two Models) and Site 9 (Public Housing). The deliverables at these sites involved print design, like brochures, flyers, posters and business cards. Public Housing was the only example that had grant funding to cover production costs. At Homeless and Two Models, the partner had a budget for print production. Beyond skills in graphic design, these projects required students to do copywriting, illustration and photography, as the partners didn't have existing imagery or content with which to work.

Second-order Design

Buchanan (2001b) states that second-order design is concerned with judging, or determining which physical artifact of the available options fits the current situation best. It also views the user as an external entity. The second-order examples were Site 10 (Chair Auction), Site 2 (Contest) and Site 3 (Aphasia). They all had tangible outcomes, including refurbished chairs, wooden furniture, and key fobs. Due to the

physical nature of products at Chair Auction and Contest, there was a concern for

sustainability. This was reflected in the project through upcycling of used furniture at

Chair Auction and a material constraint at Contest.

Lower-order Design

Buchanan (2001b) claims that first- and second-order designers are concerned with

the form and function of a particular design with little to no regard for broader

concerns, such as the human experience or the long-term effect on users. Case study

research provided three examples that challenge this. Site 4 (Homeless), Site 3

(Aphasia) and Site 9 (Public Housing) are examples of first- and second-order design

that involved students being highly invested in relationships with community partners,

including the service users. Partners at these three sites were actively involved in

educating students about the complex social problems that affect their work and

helped students better understand service users. The following comment reflects the

Homeless partner's desire to build context:

> The project produced some outstanding designs which will have a real
> impact but even more important is the lasting knowledge and under-
> standing about these important social issues that the students now have as
> citizens who can help to shape the society in which we live. (C4P1)

The partner at Public Housing expressed a similar intent:

> The goal was to give the students basic information on the connections
> between housing and health, how these connections specifically relate
> to families living in public housing. We wanted the students to under-
> stand the material in a way that would allow them to fully understand
> our mission and message. Our community representative wanted the
> students to understand the human elements of her work, which is
> focused on advocacy for public housing residents in Boston. (C9P1)

First- and second-order students that participated in this study rated "understanding the contextual forces that shape a project" and "solving communication problems" as the two most beneficial aspects of service-learning. As a result of developing a deeper understanding of the contextual forces, the students were able to design more appropriate solutions. At Aphasia, for example, early poster sketches about aphasia had a serious tone, presented information about the condition in a factual way and depicted aphasics as victims. The final direction of one group's health awareness campaign, after learning more about the impairment and taking the point of view of someone with aphasia, was more light-hearted and emphasised empowerment. One of the students at this site described the transformation:

> We wanted to show that aphasia is not all medical. In that semester we met a lot of wonderful people with many stories to tell. They were very upbeat and positive, and prove that aphasia doesn't have to hold you back. So with this in mind we tried to come up with a few posters that match this. (C3S1)

The more that a student learns about a situation, especially information about users' abilities, the more they can improve the usability of messages and products. A student from Public Housing identified the relationship between context and communication.

> There were a lot of challenges to overcome to make sure that the project was accessible to a large amount of people with dramatically differing levels of age, education, and English literacy, and I think that was the most valuable part of this task… We got some crucial experience with trying to anticipate how to best communicate with a tough user base… We provided a non-profit product to assist a large community of people who needed to be communicated *with*, not communicated *at*. So much of the material that the people had was somewhat inaccessible because it was such dense text or was just plain difficult to understand. Because of the diverse needs of those people (who very much deserve a comfortable standard of living), we had to work hard to figure out the best route of overarching successful communication. (C9S1)

Partners who actively participate in service-learning appear to help lower-order design students better understand the contextual forces that shape a project, which adds complexity to the design process but can lead to more appropriate solutions, which in turn benefit the community partner and service users. This emergent theme is based on data from student feedback, partner feedback, educator interviews and artifact analysis. It contradicts Buchanan's theory about lower-order designers having little to no concern for broader issues and the human experience.

Third-order Design

Examples of third-order design were Site 5 (Branded), Site 11 (Agency) and Site 7 (Urban Redevelopment). With third-order design, Buchanan states that designers are concerned with planning, developing and testing products, processes, services and structured activities to ensure that the arrangement is useful, usable and desirable for users. They consider the consequences of human actions and try to make "meaningful connections among all of the features of cultural life." (Buchanan, 2001b, p. 202) The participating students that completed third-order projects rated "building arguments for proposed solutions" and "understanding the contextual forces that shape a project" as two of the most beneficial aspects of service-learning. According to the educator at Urban Redevelopment, students really thought about designing an experience for users—striving for a solution that was both educational and inspirational. This was evident in the student-generated briefs and presentation files that were retrieved from the project's blog site. In this documentation, students built strong arguments for proposed solutions by making connections, or synthesising information from multiple sources. They explained *why* each concept was developed, *how* it fit into the bigger

picture, and *what* it would help people do. With wayfinding, for example, students wanted to map out a safe route that would inform, educate, inspire, and provoke. They created a scale model of the city to determine the best route between the civic center building and LCB. Then, they developed banners, markers, brochures and a kiosk for people to interact with. The group that focused on the video projection created illustrations that visualised LCB's involvement with four systems—water, transportation, organic systems and energy—and they highlighted benefits that related to the environment, economy and the community.

Another emerging theme with service-learning at the third order is that it involved lower-order design, especially communication design, because the partners (all nonprofits) didn't have a strong brand (e.g. an outdated or non-existent logo and lack of established style or visual language). While the main design objective at Urban Redevelopment was not about posters and toasters, lower-order design was part of the project, namely the development of a logo, because the students realised that the partner needed it. This is also true of Site 5 (Branded), where logo design, photography and copywriting were part of the creative service provided. The partner at Branded agreed that these components would be most useful, usable and desirable for their organisation:

> It was decided that the logo and website were the most important factors for branding and passing information to the public. This has proved correct… The feedback has been very good. We are approaching funders this autumn and I have no doubt that the logo and website will impress our potential funders. (C5P1)

Another emerging theme with the third-order, service-learning sites was that the educators had a protocol in place to ensure that designs were finalised, produced and implemented after the class project ended. At Branded, Agency and Urban

Redevelopment, invested students continued to work with partners either in an internship capacity or as freelance designers. One student from Agency worked with a partner for five months after she graduated to design an annual report and handouts for them:

> My experience with Design Corps taught me how to communicate and work with clients in regards to developing their goals through design while adhering to deadlines (from both sides). Working with [the partner] over the summer was the first time I needed to write up a formal contract. I learned about the different hands a project goes through for clearance (knowledge which has served me well for my current position) and how to produce quality design under a fixed budget. It was also good to develop a little insight on dealing with print vendors. (C11S1)

This gave the student a chance to continue learning about the contextual forces that shape a project, like budget constraints and the approval process, which not only helped her develop solutions that met the partners' needs but also gave her practical experience that benefited her later in her career.

When third-order design students are given the opportunity to think beyond the initial scope of a service-learning project, engage in problem-finding and then determine the deliverables, they can make meaningful connections that otherwise may have been missed. This might broaden the scope of services provided to partners, but from an educator's point of view, it's more work to try to fit into a semester. It raises several questions: Is quality or quantity more valuable for students and partners? If you discover opportunities for design, then it's natural to want to solve the problems to meet a need. But is it better to try to incorporate them into a class project or table them for later, perhaps letting a student do it as freelance or an internship?

Fourth-order design

According to Buchanan, fourth-order designers are concerned with the environments and human systems where actions occur. They evaluate ideas or organising principles on a systemic level to see if they are worth implementing, embedding, producing or distributing. Designers want to know if a solution will support an environment or system. Examples at the fourth order of design were Site 6 (Slavery), Site 12 (South Africa) and Site 1 (Health Literacy). Slavery involved reimagining a broken system, which was the development of a thesis based on research. South Africa involved evaluating human-centered design concepts for SMEs to see if they were worth carrying out, with the most deserving ideas receiving micro-venture funds to support implementation and production. Health Literacy first involved designing activities, but then graduated to community-wide change after being concerned with the environments and human systems where these actions were occurring.

A common practice across the fourth-order sites was the approach of human-centered design (HCD). Each site involved the application of design thinking to a very wicked social problem. It was the educators who recommended and introduced this approach at all three sites. At Slavery, HCD was part of the learning objectives for the subject, using methods like personas and scenarios to help students understand the user experience and enable them to empathise with victims. The partner at Slavery reported that he enjoyed learning about ways to consider users' needs and interests. South Africa educators championed it for students' benefit as well—to help them realise the value of integrative thinking, to develop empathy with users, and to give them a process for finding and solving problems. A former student at South Africa commented:

> We used Human Centered Design as the approach for our consulting projects. I think it is the best approach in the development field because you need to know and understand who you are trying to serve if you want to create a solution that works for them. (C12S1)

Health Literacy utilised HCD in a variety of ways to ensure that designed games, activities and communication were as user-friendly as possible. A physician at Health Literacy (C1P1) appreciated how HCD created a product around a conversation with patients and involved shared decision-making, as opposed to uni-directional information forced onto people. Since HCD involves collaborating with a range of stakeholder groups and conducting user research with human subjects, it's not surprising that fourth-order students rated "working in multi-disciplinary teams" and "understanding the contextual forces that shape a project" as two of the most beneficial aspects of service-learning.

The fourth-order sites differed greatly in one way. There were three very different project lengths. At Slavery, the whole project fit into one semester, from start to finish, which only allowed enough time for ideas to get to the conceptual stage, similar to scenario-based learning. Consequently, five of eleven students didn't regard the work they were doing as community service, because they felt like their solutions were "pipe dreams" and would never be implemented. At South Africa, the project lasted a little longer than one semester. This gave students a chance to address *part* of the bigger problem, but they weren't able to fully understand how their solutions fit into the larger system. At Health Literacy, the project had been going on for over five years due to the educator's continued involvement; it became her academic research, leading to papers and conference presentations. While the educator was able to have a systems-level view of the program, student involvement was much shorter and

therefore only allowed them to see a part of the whole and contribute at a modular level. One student reflected on her experience:

> I saw Fitwits as a service, the project in its entirety, but I did not necessarily see the portion that I worked on as service. I envisioned the end result would be a service, supported by artifacts to help communicate information and encourage participation. I perceived the work I was doing to be research to understand what kind of program would be needed to provide Fitwits as a service. (C1S3)

Another student described his involvement at Health Literacy:

> I can definitely see Fitwits as a form of "service." It is designed to be participatory and engaging for multiple community groups. [The educator] always said that she wanted to empower children to become teachers and evangelists of health literacy—to bring their learnings back home to their parents. From a Service Design standpoint, the program had multiple touchpoints—from the doctor's office, to the school cards, to the website, to even the local eat'n'park and Giant eagle. My work on the website was only one small portion of the program—but together, they constitute the entire service experience. (C1S2)

Due to the wickedness of problems at the fourth order, service-learning demands multi-disciplinary teamwork, a human-centered approach and sufficient time to comprehend complexity, participate at a systems-level, develop appropriate concepts and then properly evaluate ideas.

8.1.4. Teaching models

The term *teaching model* is used here to mean an organisational structure for service-learning. To an extent, the model shaped the experience of participants, and the participants shaped the model. They indicate the type of relationship that existed between three stakeholder groups—educator, student and community partner.

Four distinctly different teaching models were observed during case study research.

Model 1

The educator identifies the community partner and manages that relationship; students work in groups. This model was observed at the following sites:

- Site 4: Homeless (1st order, charity)

- Site 6: Slavery (4th order, charity)

- Site 7: Urban Redevelopment (3rd order, activism)

- Site 9: Public Housing (1st order, activism)

- Site 12: South Africa (4th order, project)

Model 2

The educator identifies the community partner and manages that relationship; students work both individually and in groups. This model was used at the following sites:

- Pilot Case (1st order, project)

- Site 1: Health Literacy (4th order, activism)

- Site 3: Aphasia (2nd order, activism)

- Site 5: Branded (3rd order, charity)

- Site 8A: Two Models - Lower-level (1st order, project)

- Site 11: Agency (3rd order, project)

Model 3

Students identify the community partner, manage that relationship and work individually. This model was used at the following sites:

- Site 2: Contest (2nd order, project)

- Site 8B: Two Models - Capstone (1st order, project)

Model 4

Students identify the community partner, manage that relationship and work both individually and in groups. This model was observed at the following sites:

- Site 10: Chair Auction (2nd order, charity)

Table 8.5. SLIDE teaching models

	Students identify community partner	**Educator identifies community partner**
Group only		Sites 4, 6, 7, 8A 9, 12
Individual & Group	Site 10	Sites 1, 3, 5, 11
Individual only	Site 2 & 8B	

As shown in Table 8.5, there were no examples where the educator identified the partner and then students worked only individually, and there were no sites where the students identified the partner and worked only in groups.

If the responsibility of finding a community partner rested on an individual student, then the student was expected to manage the relationship outside of class meeting times, much like a freelance project. Only three of the twelve sites operated this way. The educator at Site 2 used to identify partners, but in his opinion, this approach was more time consuming and required more planning on his part. While he could "guide" the students more, since he was more familiar with the situation, he felt like they needed more "hand-holding." With the other teaching model, students are more independent, because, according to C2E1, "they *have* to go figure it out" on their own. While this is less work for the educator, he doesn't feel like it has negatively affected the outcome. For one of the other examples, Site 8B, this model is an integral part of the subject's learning objective. The description for ART 495: Professional Practices in Art - Graphic Design states the following:

> This course is a self-directed, independent project of the student's choosing, working on a real-world project. The student is responsible for the entire structure and scope of creation of a body of professional published work with minimal supervision. Client interaction, professionalism and record keeping will be stressed. Unpaid work for local non-profit service organisations is highly encouraged.

For this subject, students are required to submit a reflection paper, in which they discuss the strengths, weaknesses, obstacles, triumphs/successes, and how the actual project differed from the proposal/expectations. The educator sees this as a good way to prepare students for professional practice. According to Sandy & Holland (2006), the risk of having partners that don't interact directly with educators is that assignments may not be appropriate for the organisation and schedule changes can occur without their consent. Their research, which involved focus groups with 99

community partners, found that faculty involvement was highly desired, especially during the planning and evaluation of service-learning.

When the educators did determine the community partner, there were two conditions:

1. They involve the partner in planning prior to the start of SL, which involved conversations to understand the current situation (i.e. articulate the design-related need) and explain expectations (i.e. partner's role and responsibility). They also collaborate with partners throughout the life of the class project.

2. The educator prefers that students work with other students at some point, either during design research or towards the end to pull together a campaign with multiple components. Successful groups tend to have a leader that naturally emerges, specific responsibilities for each student and respect for one another. Problems arise when students don't have an individual responsibility within the group or when they have no connection to the subject matter.

In summary, each teaching model supports academic service-learning, but in different ways. If the educator finds the community partner, then they manage that relationship and schedule meetings during class times. If the student finds the partner, then the relationship is managed outside of class.

8.1.5. Stakeholder roles in SLIDE

After developing concept maps and narratives for each site, codes were generated based on the nature and context of relationships. Table 8.6 indicates the roles that

educators, design students and community partners played during each service-learning partnership.

Table 8.6. Stakeholder roles during SLIDE

Orders of Design	Service-Learning Mindsets			
	Charity	**Project**	**Social Change**	
4th	Process expert	Project manager	Strategist	*Educator*
	Innovators	Consultants	Interns and Research Assistants	*Student*
	Content expert	Entrepreneurs	Co-designers	*Partner*
3rd	Mediator	Creative Directors	Experienced leader	*Educator*
	Cooperative designers	Designers	Agile storytellers	*Student*
	Advocate	Client	Visionary	*Partner*
2nd	Event Director	Civic-minded critic	Design evangelist	*Educator*
	Planning Committee; Product Designers	Contestants	Facilitators	*Student*
	Recipient	Clients	Co-designers	*Partner*
1st	Facilitator	Art Director	Guide	*Educator*
	Design apprentice	Freelance Designer	Collaborator	*Student*
	Co-educator	Client	Collaborator	*Partner*

The roles and responsibilities that design students had at each site fit within Britt's view of students as learners, citizens and activists. The new layer of information is regarding how community partners could be classified in the service-learning taxonomy. While a handful of studies have looked at different levels of partnerships during SL in general (Sockett, 1998; Klak & Mullaney, 2013), a discipline-specific understanding is missing in literature.

After the first phase of analysis, codes from each data set were combined. Designated

factors represented themes by service-learning mindset. The themes crystallised into

three distinctly different roles that community partners play during the design process.

Sanders and Stappers (2008) describe the person who will eventually be served by

design as the "expert of experience" in the creative process of co-creation (p. 12).

During service-learning, the expert of experience took the form of a co-educator at

charity sites. At the project sites, a partner's professional experience allowed them to

play the role of client. And at social change sites, this role materialised as co-designer.

Table 8.7 explains the different ways that educators regarded community partners,

what they contributed, how they contributed and what they received.

Table 8.7. Community partner roles and responsibilities in SLIDE

Educator regarded the partner as:	Co-educator	Client	Co-designer
They contributed:	Knowledge about the social problem to build context	Information to advance the design process	Front-line experience to inform the design direction
How they did this:	Share information with students (org mission, tell stories)	Project management (planning, brief, timeline, feedback)	Participate in the design process (use tools and methods)
They received:	Innovative approaches to fundraising and volunteer recruitment	A professional-quality response to a need or solution to a problem	User-friendly designs intended to educate users and lead to behavior change

It is worth noting that educators frame the service-learning experience for students

and partners, which may affect how they understand or make sense of the activity.

8.2. Summary

Emerging themes around designer capabilities, service-learning mindsets and the orders of design were discussed in this chapter. The different roles that stakeholders play during a partnership were highlighted, along with four teaching models.

In summary, some first- and second-order service-learning contradicts Buchanan's theory that designers are concerned more with form and function than the human experience or the long-term effect on users. With regards to service-learning at the third order, when students are given the opportunity to think beyond the initial scope of a project, engage in problem-finding and determine the deliverables, they are able to make meaningful connections. Service-learning at the fourth order demands multi-disciplinary teamwork, a human-centered approach and time to develop and evaluate solutions to systems-level complexity.

Regarding service-learning mindsets, charity sites involved one-off design challenges that were confined to a specific problem intended to be solved during a fixed period of time, which reduced the risk of creating long-term dependency. Partners regarded their role as that of co-teaching. At project sites, university-community partnerships were formed for students to 'give back' to the community and gain relevant professional experience with 'clients'. Project sites required problem-solving skills that may be difficult for non-experts to master, which aligns with Morton (1995), but they also gave students the opportunity to investigate the cause of the problems, which challenges his theory. At activist sites, all projects were grant funded, helped students think about the design challenge from a systems level, and encouraged community partners and service users to participate as co-designers.

The following chapter provides a summary of the findings from this research,

highlights some of the benefits and challenges for each stakeholder group and

concludes with a discussion of the implications and recommendations for

future research.

Chapter 9. Epilogue

9.1 Summary of findings

This study was designed to answer the following research question: To what extent is service-learning in design education mutually beneficial for design students and community partners? This chapter discusses how the results of a two-phased, mixed-methods study addressed that question. It is the culmination of research about service-learning in design education (SLIDE).

The chapter begins with a discussion of the findings in relation to literature, followed by an assessment of the benefits and challenges for each stakeholder group. It then examines the conceptual implications, including the issues and opportunities, with suggested amendments and additions to the theoretical framework. The epilogue concludes by addressing the limitations of the study and the need for future research.

This study has identified that service-learning (SL) has an important and growing role to play in design education, thereby affirming this growing recognition in higher education literature (Billig and Waterman, 2003; Butin, 2010; Jacoby, 2009). It confirmed and extended design theory (Buchanan, 2001b) and a service-learning typology (Morton, 1995; Britt, 2010). At the same time, this study offers new insights, building on the findings of the Visionary Design Council (2008), Parker (2009), Design Skills Advisory Panel (2007) and Coker (2010) by showing that service-learning can in fact contribute to all nine of the design-related competencies.

Table 9.1 shows the connection between the key findings and questions from phase one and the explanatory findings from phase two. The survey results provided information about *what* is currently happening at tertiary institutions and nonprofit

organisations, and the results of case study research answered the *why* and

how questions.

Table 9.1. Phase-two answers to phase-one questions

Phase one findings	Phase one resultant questions	Phase two findings
More service-learning projects are offered in upper-level subjects than lower-level subjects.	Why is there more service-learning in upper-level subjects? Why is service-learning not as common in lower-level subjects?	The main reason for this is that educators try to align SL projects with learning objectives. Due to the complexity of SL design challenges, they often fit better with upper-level subject descriptions. But, as the educator at Site 8 demonstrated, two different SL approaches can work for lower- and upper-level students.
The most common types of service-learning design projects were captured and discussed in chapter five. The design of logos and event material are the two most common service-learning projects.	How are the deliverables determined?	There are two ways. Educators work with the partner during the planning phase to determine the project scope and deliverables to ensure that they align with the learning objectives (Site 4, 5, 8, 9, 11). Students work with the partner to determine the deliverables (Site 1, 2, 3, 6, 7, 12).
Most educators try to nurture a classroom dynamic that is more collaborative than competitive.	Why do educators prefer collaboration over competition?	Collaboration allows students to work together to understand complex problems, develop appropriate solutions and ultimately do more for the partner (10 of the 12 sites).
The most common ways that educators find partners are through personal contacts or department leads.	How can service-learning centres help in identifying good community partners? What do they provide? How do they support SL?	SL centres provide forms, track hours and recognise SL, but educators currently prefer to screen partners themselves due to design-related issues, like production costs.
Educators found service-learning to be "extremely helpful" in developing all nine of the capabilities in design students.	How does service-learning develop these capabilities in students?	Every site provided specific examples for each of the nine areas. They are discussed in chapter eight.

Over half of the student-generated designs do get used by community partners, but 16.4% do not get implemented.	How can the success rate increase? How can educators reduce the risk of student-generated designs not being implemented?	Protocols include rigorous screening on the front end (Site 9, 11) to ensure dedicated staff and budget, and students continuing to work with partners as interns or freelance designers after the class project is over (Site 5, 7, 11).
Nonprofits need help communicating the value or impact of their work with donors and volunteers, especially when their mission is complicated.	How can design students best help nonprofits communicate complex information?	A human-centered approach to design was found to be effective. At sites 1, 3, 7 and 9 the design goal was to inform and educate.
Nonprofits find it challenging to attract new donors and retain existing ones.	How can SL help with donor recruitment and retention? Can better communication strategies improve this?	Several sites (5, 7, 8, 11) involved creating a professional image for partners as a way to attract donors (e.g. logo and web design) and designing communication to engage them (e.g. newsletter, social media, annual report).
Nonprofits are interested in working with design students, but they don't know who to contact or what services the university has to offer.	How can tertiary institutions be more accessible to community partners?	Site 11 developed an online application for prospective partners.

9.2 Benefits and challenges for stakeholders

The research results were helpful in addressing the research questions that were raised in chapter three.

- To what extent does SLIDE benefit design students?

  - How does service-learning build capability in design students?

- To what extent does SLIDE benefit community partners?

  - What are the design-related needs and assets of nonprofit organisations?

  - How does service-learning meet these needs?

The following sections discuss the benefits and challenges for each stakeholder group—design students, community partners and design educators. Newton's III Law states that "For every action there is an equal and opposite reaction." That resonates, because the actions of one stakeholder group affect the experience of another stakeholder group and the outcome of the SL partnership.

9.2.1 Benefits and challenges for design students

This research study confirms that service-learning can contribute to developing all nine of the design-related competencies. SLIDE can provide opportunities for students to work in multi-disciplinary teams, develop empathy with stakeholders, help clients find and solve communication problems, engage in systems-level thinking, understand the contextual forces that shape a project, build arguments for proposed solutions, use a variety of tools and technology and practice ethically.

In addition to that, several other beneficial and challenging aspects of service-learning surfaced for design students during this study. The additional benefits of SL for students are both professional and personal in nature. Students find value in the experience during their job search (Site 8) and networking (Site 12), in that it gives them relevant experience to point to during an interview, a real-world project in their portfolio and a line on their resume if they were a scholarship recipient (Site 2) or a competition winner (Site 4, Site 5). Service-learning can help students learn about social issues (Sites 1, 3, 4, 5, 6, 7, 8, 9, 12) and help them understand how design can make a difference in the community (Sites 1, 3, 4, 7, 11). It can also lead to post-

graduate academic research for students who discover an interest in social design (Site 1 and Site 3).

Two challenging parts of SL for students are related to motivation and collaboration. If students don't care about or support the cause or issue (Site 3 and 5), then their personal investment in the project is low and their engagement with course content can be negatively affected. As with many group projects, if a motivated student is part of a "weak group," then the whole experience can be frustrating for that individual (Site 3 and 5). The implication of this is that higher-order design involved collaborative projects where students did not get to choose the community partner.

Some issues surfaced around client communication and feedback. If a project is run like a competition and a student's design is not chosen by a partner, then they may regard this as a failure and reflect negatively on the experience (Site 5). This is an opportunity for educators to help students learn how to navigate something that is part of the design profession. On a similar note, if a partner decides not to implement any of the student-generated designs or concepts, for whatever reason, then students may feel like their work was not impactful. Implementing a rigorous screening and/or application process for community partners can reduce the risk of this happening. Another issue for students surfaced when the partner's timeline didn't align with the academic timeline. If the partner didn't communicate promptly (Site 5, 7, 9) or have what was needed at the time (e.g. photographs or copywriting), then it can hold up the process, frustrate students and negatively affect the quality of the final outcome.

9.2.2. Benefits and challenges for community partners

After analysing data from multiple sources—community survey, educator survey and case study research—beneficial and challenging aspects of service-learning emerged for community partners.

The findings are about what community partners gave and received. It is about what they contributed or offered to the partnership—sharing the mission of the organisation, teaching students about a social problem, etc. It is also about what they received—a creative service that met an existing need, whether that was a printed piece or an innovative idea.

Community partners appreciate that they receive free, quality design work that they otherwise could not have afforded. For example, the partner at Site 11 referred to this as an "incredible gift" (C11P1). A positive side effect is that they often get help with other design-related needs beyond the initial scope of the project (Site 5, 6, 7). Partners enjoy being around students, because they have enthusiasm, bring fresh, new ideas, and introduce them to relevant theory (Site 4, 6, 7, 9). At Site 6, for example, the partner believes that "theory-based academic work is of significance to the world" (C6P1). In turn, they welcome the opportunity to teach students about a range of topics, including:

- Social issues that relate to the organisation's mission (Site 4, 5, 6, 9). If it is difficult for some students to understand the complexities of their problem (e.g. slavery and ex-offenders), the partners are happy to answer their questions.

- The challenges that nonprofit organisations face with regards to operations (Site 4 & 7),

- Their service users or members, to emphasise the human element of their work (Site 5 & 9),

- The process of interacting with a client and meeting stakeholder requirements (Site 6 & 7).

Several partners reported that their participation required little to no preparation, especially for the first meeting with students, because they frequently talk about their organisation's root cause (Site 5, 6, 7, 9). The act of presenting their information to university students can actually be a learning experience in itself. It can help them figure out how to make their topics more accessible and engaging for a younger audience.

Partners also learned about design—not quite to the point of a technical skills transfer, but about the value of design. With human-centered design, for example, they learned about the deep insight that can result from user research methods (Site 1 & 6) and the importance of developing a message that's both clear and appealing for users (Site 1, 7 & 9).

The fact that some community partners can measure the success of SL design projects, whether that be for volunteer recruitment or fundraising, can be beneficial to both partners and tertiary institutions. At Site 4, campaigns have resulted in 443 more volunteer hours per month for the homeless charity. Every year, the educator at Site 4 estimates the total added value of student-generated campaigns and puts a dollar amount on the public engagement projects, which results in a donation to the school. At Site 5, the website has helped the founder when approaching potential funders and

has given them a way to recognise donors online for their contributions. Having a quantitative way to measure service-learning can help tertiary institutions demonstrate their economic impact.

Several community partners expressed a desire to form sustainable relationships with the university and wanted to work with students again (Site 5 and 9). A few research participants have already done this and were examples of partnerships that have continued across multiple semesters (Site 3, 4, 6, 7, and 12) and years (Site 1). A couple of partners enjoyed educating students as much or more than the benefits to their organisation. These long-term partnerships have happened because the educator either feels like the individual(s) is a good partner, is passionate about the root cause, or because the work aligns with their academic research.

The challenging aspects for community partners revolved around time and money. Partners regretted that they were not always available to meet with students during class times or were slow to respond to students' questions (Site 5 & 9). The partner at Site 7 found it frustrating to see student's concepts but not have the resources to implement their ideas (i.e. print production budget). The implication here is that even if the experience during a semester is great, if a partner cannot afford to produce a design, then the value can never be fully realised. Pre-qualifying partners to make sure they have a production budget may help to ensure that a class project is successful, but it doesn't get to the root of the problem or help the organisations that lack access to funding. Once a partnership is formed, there could be a protocol in place to finalise designs (e.g. an internship) and ensure that they go to production.

9.2.3. Benefits and challenges for design educators

Since design educators played a pivotal role in forming and sustaining the partnerships studied during this research, findings that relate to them have also been included. The beneficial and challenging aspects of service-learning for design educators are discussed in this section. The results of phase two confirm what educators reported during phase one and explain some of the initial findings.

Design educators find service-learning rewarding because they know it's good for students and the community. From the educators' perspective, they feel like it motivates students to "work harder" (C2E1), hit deadlines and take projects "more seriously" (C8E1) than other studio projects. There were several reasons behind this—their desire to please the client (Site 8), create a strong piece for their portfolio (Site 2), or give back to the community (Site 2 and Site 11). Educators also expressed a desire to give back and see service-learning as a way to do this. And, since some of the work can be done off campus, SL provides a different learning environment, which is a welcome change of scenery for several educators (Site 9 and Site 12).

As employees of tertiary institutions, educators had mixed feedback about the professional implications of practicing service-learning. Educators at Sites 3, 4, 8 and 10 admitted that, if the university supports SL, then it can lead to teaching awards and help with advancement. If it aligns with one's research topic, then it can result in conference papers and journal articles (Site 1, 3, 8). However, if SL does not align with one's research, then it leaves little time for research in other areas but still the pressure to produce. Another source of frustration is when SL is not recognised or appreciated by an institution and does not factor into tenure and promotion.

In addition to the lack of institutional support, other challenging parts of SL for educators revolve around time and managing expectations. The most time-consuming parts of SLIDE are during the planning phases—finding a good partner (Site 9, 11), writing the brief (Site 5) and working out the logistics of field trips and meetings (Site 8, 10). Another challenge during projects is managing partner expectations while simultaneously teaching students, especially if it's a skill that they need to immediately apply (e.g. web design (Site 5), print production (Site 9), user research methods (Site 3)). But several educators actually enjoyed the challenge of multi-tasking (Site 4 and Site 5).

9.2.4. A summarised response to the research question

Service-learning in design education can provide a mutually beneficial experience for design students and community partners. When students are given the opportunity to develop in the nine areas, they gain relevant experience for professional practice and personal development. When partners actively participate in the process and have funding for implementation, they receive a valuable professional service that can positively impact the community. The concept of reciprocity is somewhat relevant. In some ways, what each stakeholder personally gets out of SLIDE is dependent on what they put into it. If design students and community partners are engaged, under the stewardship of passionate design educators, then service-learning can be mutually beneficial for stakeholders.

9.3 Implications and recommendations

This study contributes in several ways to the conceptual understanding of service-learning in design education. Through inductive and deductive reasoning, a revised and extended version of the theoretical framework emerged—one that more accurately depicts why and how design students and community partners collaborate during service-learning. The following sections indicate how the research uncovered the need for revisions to theory and revealed three distinctly different roles that community partners play.

9.3.1. Issues and opportunities related to the orders of design

This research confirms and extends Buchanan's theory about the four orders of design. One of his criticisms of lower-order design is that first- and second-order designers lack concern for the human experience. This raised the question: Can service-learning help students who are participating in lower-order design projects develop concern for the human experience and broader context? In design education, service-learning can provide a context of wicked, social problems that compels students in lower-order design to use their skillset to improve the situation for service users.

According to Buchanan, third-order design is about strategic planning and requires a designer to decide which designed activity best fits the situation. Service-learning can give design students the opportunity to engage in problem-finding and then determine the most useful, usable and desirable deliverables, which may involve lower-order design, if they are given the freedom to think beyond the initial scope of a project.

Fourth order design is about systemic integration of thought and requires designers to evaluate ideas to see if they are worth implementing. Service-learning at the fourth order can provide this experience for students if they are involved with a project long enough to fully comprehend the complexity of the situation and are able to work as part of a multi-disciplinary team.

The layering of this new information on Buchanan's framework can expand upon its usefulness to the practice of service-learning in design education.

9.3.2. Issues and opportunities related to service-learning

The results of case study research confirm the three different service-learning mindsets as they relate to students, and they add a new layer regarding to the roles that community partners play in the partnership.

When partnering with an educator who has a charity mindset, community partners need to be prepared to assume the role of co-educator and participate in teaching students, not about design, but about relevant social issues or business operations—areas where they are most knowledgeable. When joining an educator with a project mindset, partners can expect to be treated as clients who are entering into a professional relationship with designers, and thus should provide accurate information for the brief and prompt feedback and communication throughout the design process. And when partnering with educators who see service-learning as a form of social change, partners need to be willing and available to actively participate as co-designers and should expect to be given appropriate tools and techniques for creative expression.

9.4 The need for future research

This particular study focused on researching SLIDE partnerships in multiple countries to have a holistic, global view of service-learning in the discipline of design. Nevertheless, the study has limitations that suggest how future research could be conducted.

Recruiting participants to represent the community perspective was more difficult than the researcher thought it would be. During the needs assessment, this was due to high turnover in the nonprofit sector, staff being bombarded with email requests, and organisations being understaffed (i.e. not having the time to complete a survey). During case study research, this was due to indirect access to partners and educators not sharing their contact details. The researcher would like to have more data from that perspective to better understand the potential for third- and fourth-order design in the community.

A longitudinal study at a researcher's institution with design students before, during and after their service-learning experiences and even after graduation would help educators understand the long-term benefits of SLIDE. It would be important to follow up with students after graduation, once they have a few years of relevant professional experience. After starting their career, they could reflect on the experience from a different point of view.

The results of this study raised some new questions for SLIDE research. For example, how can educators get university support for SLIDE? What is the impact of SLIDE on student retention? What is the economic impact of SLIDE on local communities?

This study focused only on SLIDE. It did not compare service-learning to other pedagogical approaches. One question that the researcher would like to explore in the future is: How does SL compare to other pedagogical approaches to design education? For example, how does SL compare to scenario-based learning? Similarly, how do SL projects compare to blue-sky projects? The educator at Site 5 mentioned that he had experience with both public engagement and blue-sky projects and noted some initial observations during the interview. More research is needed to attribute certain outcomes and impacts to service-learning in particular, and not simply to experiential learning in general. It would be helpful to compare a blue-sky project to a service-learning project.

The above suggestions are discipline-specific recommendations for future research. Since the researcher believes that these findings could be replicated in other pre-professional disciplines that incorporate service-learning, the recommendations could be transferrable as well.

9.5 Conclusion

This chapter provided a reflection on the findings and explained the significance of this study with regards to the theory and practice of service-learning in design education. The study confirmed that service-learning can build capability in design students and provided specific ways to develop competence. It identified three important roles that community partners play in SLIDE. It also suggested topics for future research.

While the findings illustrate the complexities of partnerships between design students and community partners, they also reveal the potential for design in this context. Several of the examples studied demonstrate what can be accomplished when a small group of committed individuals work together.

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Appendix A: Online survey with design educators

INFORMATION ABOUT THIS STUDY

You are invited to participate in a research project that investigates how and why service-learning is being incorporated into design subjects in higher education. The study is being conducted by Mrs. Natalie Whitlock Stephenson and will contribute to the research degree of Doctor of Philosophy in Creative Arts at James Cook University.

Who should participate in this survey?
Design educators who have experience with service-learning, community-based projects, real-world projects, or work-integrated learning (WIL) initiatives at tertiary institutions.

What is service-learning?
At its most basic level, "service-learning involves both service to the community and learning tied to academic curriculum" (Billig & Waterman, 2003, viii). Service-learning involves students and a community organisation partnering to address a need in the community. Facilitated learning should take place both in the classroom and in the community.

Your participation in this study involves the completion of an online questionnaire, which asks you about your involvement with and/or perceptions of service-learning in design education. It is estimated that the questionnaire should only take 15-20 minutes to complete. If interested, you may request to see the results of the survey.

If you have any questions about the study, please contact the principal investigator, Mrs. Natalie Stephenson, or her supervisor, Professor Ryan Daniel.

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INFORMED CONSENT

I understand the aim of this research study is to find out how and why service-learning is being incorporated into design subjects in higher education. I consent to participate in this project, the details of which have been explained to me.

I understand that my participation will involve completing a questionnaire. My identity and contact details will remain strictly confidential. My responses and the data from the study will be used in the above-mentioned research and may also appear in relevant conference papers and research publications. In these publications, I will be identified by a participant number and due attribution will be accorded for my contributions.

I acknowledge that:
- taking part in this study is voluntary and I am aware that I can stop taking part in it at any time without explanation or prejudice and to withdraw any unprocessed data I have provided;
- any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval;

I consent to complete the online survey.
- ☐ Yes
- ☐ No

SECTION 1: BACKGROUND INFORMATION

Throughout this survey, the term "tertiary institution" refers to all forms of higher education—universities, colleges, and technical institutes.

In which country do you live and work?
Insert dropdown list of all countries here

Which of the following best describes your current role at a tertiary institution?
- ☐ Professor
- ☐ Associate Professor
- ☐ Assistant Professor
- ☐ Senior Lecturer
- ☐ Lecturer
- ☐ Instructor
- ☐ Other:

What is the highest degree that you've obtained?
- ☐ Ph.D.
- ☐ Masters
- ☐ Bachelors
- ☐ Associates
- ☐ Other: ___

When you were a student, did you participate in any of the following?

YES	NO	Community-based projects
YES	NO	Work-Integrated Learning initiatives
YES	NO	Service-Learning
YES	NO	Real-world projects

If yes, please briefly describe the experience or project(s).

What is your current employment status?
- ☐ Full-time
- ☐ Part-time
- ☐ Contract
- ☐ Sessional / Adjunct
- ☐ Other:

How long have you been teaching?
- ☐ 1-2 years
- ☐ 3-5 years
- ☐ 5-10 years
- ☐ 10-20 years
- ☐ Over 20 years

In addition to teaching experience, do you have industry experience?
- ☐ Yes
  - o If yes, how many years?
    - ☐ 1-2 years
    - ☐ 3-5 years
    - ☐ 5-10 years
    - ☐ Over 10 years
- ☐ No

For the following question, please consider your workload during an academic year. Indicate a percentage that represents how much time you dedicate to teaching (e.g. face-to-face, online) and related activities (e.g. marking, preparation) in your current role.

0-20%
21-40%
41-60%
61-80%
81-100%
Other

In which type of school or department do you teach?
- ☐ Arts
- ☐ Business
- ☐ Communication
- ☐ Design
- ☐ Engineering
- ☐ English
- ☐ I.T.
- ☐ Journalism
- ☐ Other (please specify):

At which type of tertiary institution do you teach? (check all that apply)
- ☐ Public
- ☐ Private
- ☐ Religious
- ☐ Military
- ☐ Liberal-arts

☐ Community
☐ Technical

How many students are enrolled at your school?
- less than 5,000
- 5-10K
- 10-20K
- 20K+

In which type of city or location is your institution located?
☐ Small (population under 250,000)
☐ Midsize (250,000 – 750,000)
☐ Large (population over 750,000)

In which type of degree program do you teach? (check all that apply)
☐ Diploma
☐ Associates
☐ Bachelors
☐ Masters
☐ Doctorate
☐ Other:

If in an undergraduate program, which classification(s) of students do you teach?
(check all that apply)
☐ 1st year / Freshman
☐ 2nd year / Sophomore
☐ 3rd year / Junior
☐ 4th year / Senior

In which subject areas do you teach?
(check all that apply)
☐ Advertising
☐ Animation / motion media
☐ Broadcast journalism / multi-media journalism
☐ Business / management
☐ Community planning
☐ Communication
☐ Digital sound / music
☐ Film / video / tv
☐ Fine art
☐ Game development
☐ Graphic design / media design
☐ Illustration
☐ Information design
☐ Interactive design
☐ Industrial design
☐ Marketing
☐ Performance / theatre
☐ Photography / digital imaging
☐ Public relations
☐ Service design
☐ Technical writing
☐ Visual communication
☐ Web design
☐ Other (please specify):

SECTION 2: GENERAL INVOLVEMENT WITH SERVICE-LEARNING

Another commonly cited definition of service-learning is by Barbara Jacoby. She describes service-learning as "a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service-learning." (Jacoby, 1996, p. 5)

Does the school where you currently work have any on-campus support for service-learning (e.g. service-learning centre or a community engagement officer)?
- ☐ Yes
  - o If yes, do you utilise this support?
    - ☐ Yes
      - • Briefly describe how
    - ☐ No

- ☐ No
- ☐ I don't know

The following questions relate to service-learning at the undergraduate level.

Have you ever incorporated service-learning into an *undergraduate class*?
- ☐ Yes
  - o If yes, which level? (check all that apply)
    - ☐ 1st yr / freshman
    - ☐ 2nd yr / sophomore
    - ☐ 3rd yr / junior
    - ☐ 4th yr / senior
  - o How long have you been offering service-learning?
    - ☐ 1-2 years
    - ☐ 3-5 years
    - ☐ 6-10 years
    - ☐ 11-20 years
    - ☐ over 20 years
  - o Approximately how many service-learning projects have you coordinated?
    - ☐ 1-2 projects
    - ☐ 3-5 projects
    - ☐ 6-10 projects
    - ☐ 11-20 projects
    - ☐ more than 20

- ☐ No
  - o If no, why not?
    - ☐ I don't teach at the undergraduate level.
    - ☐ Not interested.
    - ☐ Not appropriate.
    - ☐ Too difficult to coordinate.
    - ☐ Other:

The following questions relate to service-learning at the post-graduate level (i.e. masters programs and doctoral study).

Have you ever incorporated service-learning into a ***post-graduate class***?

☐ Yes
- o How long have you been offering service-learning at the post-graduate level?
  - ☐ 1-2 years
  - ☐ 3-5 years
  - ☐ 6-10 years
  - ☐ 11-20 years
  - ☐ over 20 years
- o Approximately how many service-learning projects have you coordinated at the post-graduate level?
  - ☐ 1-2 projects
  - ☐ 3-5 projects
  - ☐ 6-10 projects
  - ☐ 11-20 projects
  - ☐ more than 20

☐ No
- o If no, why not?
  - ☐ I don't teach at the graduate level.
  - ☐ Not interested.
  - ☐ Not appropriate.
  - ☐ Too difficult to coordinate.
  - ☐ Other:

What inspires you to undertake service-learning?
(please rank the following, 1 = most important, 5 = least important)

My school encourages it	1	2	3	4	5
The community needs it	1	2	3	4	5
The students benefit from it	1	2	3	4	5
Personal interest	1	2	3	4	5

Which of the following describe the nature of the service-learning activity that you've coordinated? (check all that apply)

☐Yr 2Yr 3Yr 4Yr Grad Logo design and/or a visual identity system
☐Yr 2Yr 3Yr 4Yr Grad Print collateral (e.g. sales brochure, catalogue, direct mail postcards, etc.)
☐Yr 2Yr 3Yr 4Yr Grad Web design
☐Yr 2Yr 3Yr 4Yr Grad Advertising campaign
☐Yr 2Yr 3Yr 4Yr Grad Material for an event (e.g. invitations, poster, programs, premium items, etc.)
☐Yr 2Yr 3Yr 4Yr Grad Environmental graphics (e.g. billboards, outdoor signage, etc.)
☐Yr 2Yr 3Yr 4Yr Grad Design for mobile devices
☐Yr 2Yr 3Yr 4Yr Grad Interactive content (e.g. DVD, game, etc.)
☐Yr 2Yr 3Yr 4Yr Grad Film, animation, video
☐Yr 2Yr 3Yr 4Yr Grad Print advertising for magazine or newspaper
☐Yr 2Yr 3Yr 4Yr Grad Publication design (e.g. magazine, newsletter)
☐Yr 2Yr 3Yr 4Yr Grad Product design / industrial design
☐Yr 2Yr 3Yr 4Yr Grad Information design (e.g. infographic, annual report, instructional manual, etc.)
☐Yr 2Yr 3Yr 4Yr Grad Service design
☐Yr 2Yr 3Yr 4Yr Grad Strategic planning / management consulting
☐Yr 2Yr 3Yr 4Yr Grad Systems design
☐Yr 2Yr 3Yr 4Yr Grad Other (please specify):

When you are coordinating a service-learning activity, how do you prefer that students work?

- ☐ Individually
- ☐ In groups
- ☐ Both

Please briefly explain why.

Which of the following aligns best with your view of service-learning?

- ☐ It is a charity. Students are like volunteers.
- ☐ I have a project mindset. Students are like citizens.
- ☐ It is a form of social change. Students are like activists.

Are your SERVICE-LEARNING projects typically discipline-specific or a multi-disciplinary effort?

- ☐ Discipline-specific
- ☐ Multi-disciplinary
- ☐ Both

Which of the following types of clients have you partnered with? (check all that apply)

- ☐ Local
- ☐ Regional
- ☐ National
- ☐ International
- ☐ Not-for-profit organizations
- ☐ Community groups
- ☐ On-campus organizations
- ☐ Small to medium-sized enterprises
- ☐ Large organizations

SECTION 3: LOOKING AT ONE SERVICE-LEARNING PROJECT

For the following questions, please consider one of your most successful service-learning projects.

How many students were enrolled in this class?

- ☐ under 20
- ☐ 20-39
- ☐ 40-59
- ☐ 60-79
- ☐ 80-99
- ☐ 100+

What level was the class?

- ☐ 1st yr / freshman
- ☐ 2nd yr / sophomore
- ☐ 3rd yr / junior
- ☐ 4th yr / senior
- ☐ Masters
- ☐ Doctorate

Did students choose their 'client', or were they assigned one?

- ☐ They chose the client (please go to next question)
- ☐ A client was assigned to them (please skip to QX)

If students chose the client, how did that decision-making process work?
- ☐ Group decision
- ☐ Individual decision

If you chose the 'client', how did you do that?
- ☐ They contacted our department with a request for services.
- ☐ Our service-learning centre passed along their details.
- ☐ They were a personal contact.
- ☐ They participated in a community survey.
- ☐ Other (please specify):

What type of 'client' did you partner with? (check all that apply)
- ☐ Small to medium-sized enterprise (SME)
- ☐ Non-profit organization
- ☐ Large organization
- ☐ On-campus organization
- ☐ Public sector
- ☐ Private sector

If you facilitated the engagement, who was your main point of contact?
- ☐ Owner, CEO, President
- ☐ Marketing manager
- ☐ Administrative staff
- ☐ Other (please specify):

In general, did students work more in collaboration or competition with other students in the class?
- ☐ Collaboration
- ☐ Competition
- ☐ Both

How long were **students** involved in the service-learning project?
- ☐ Less than 1 week
- ☐ 1-5 weeks
- ☐ 6-10 weeks
- ☐ 11-15 weeks
- ☐ 2 semesters
- ☐ More than 1 academic year

How long were **you** involved in the service-learning project from start to finish?
- ☐ Less than 1 week
- ☐ 1-5 weeks
- ☐ 6-10 weeks
- ☐ 11-15 weeks
- ☐ 2 semesters
- ☐ More than 1 academic year

How was the project assessed? (check all that apply)
- ☐ Peer assessed
- ☐ By you
- ☐ By other lecturers/professors
- ☐ By client

Was client feedback gathered?
- ☐ Yes

☐ No

How would you describe the client's overall involvement with the project?
☐ Actively involved
☐ Somewhat involved
☐ Not involved

Were students rewarded by the client in any way (e.g. gift certificates, a 'thank you' party)?
☐ Yes
   o If yes, did that incentive affect student participation? If so, how?
☐ No

Was formal reflection on the project an assessment item?
☐ Yes, reflection was assessed
☐ No, reflection was not assessed, but it was encouraged
☐ No, reflection was not part of the project

If yes, which type(s) of reflective activities were used? (check all that apply)
☐ Writing (e.g. journals, blogs)
☐ Telling (e.g. debriefing after client meetings)
☐ Reading (e.g. assigned chapters or articles)
☐ Doing (e.g. putting theory into practice)
☐ None
☐ Other (please specify):

SECTION 4: PROS & CONS OF SERVICE-LEARNING

In general, how helpful do you think involvement in a service-learning project is in developing students' skill in the following areas?

	1=very helpful	2	3	4	5=very unhelpful
Developing empathy with stakeholders (e.g. clients and customers/end-users/members)					
Understanding the contextual forces that shape a project					
Solving communication problems					
Being involved upstream as a problem finder					
Engaging in systems-level thinking					
Working in multi-disciplinary teams					
Using a variety of tools and technologies					
Practicing ethically					
Building arguments for proposed solutions					

Please briefly describe any other benefits that you observed during or as a result of student participation in a service-learning project?

In your opinion, do students learn anything from the client?

☐ Yes
  o If yes, what do they learn from the client?
    ☐ Business / professional skills
    ☐ Industry-specific knowledge
    ☐ Communication / negotiation skills
    ☐ Time management
    ☐ Other (please specify):
☐ No
  o If no, why not?

Do clients typically report any benefits associated with their participation in a service-learning project?

☐ Yes
  o If yes, please briefly describe their comments.
☐ No

Have clients reported any challenges associated with their participation in a service-learning project?

☐ Yes
  o If yes, please briefly describe their comments.
☐ No

Do you find that offering a service-learning project poses any challenges for you?

☐ Yes
  o If yes, please briefly describe (e.g. time consuming, unpredictable nature, difficulty finding a good community partner, etc,)
☐ No

Is there anything else that you would like to know about service-learning as it relates to design?

SECTION 5: FUTURE RESEARCH

Would you be willing to participate in further research about this topic, which may involve an interview about your experiences?

☐ Yes
  o If yes, please provide your contact information and your preferred mode of contact.
☐ No thanks.

Would you like to see a summary of the results from this study?

☐ Yes please.
  o If yes, please provide your email address to receive a summary of the results.
☐ No thanks.

THANK YOU

Your responses have been successfully lodged. Thank you for participating in this study.

SLIDE Research, Phase One, Educator Survey, Version 4, May 2011

Appendix B: Contact Letters

Contact 1: Pre-approach letter (PAL)

Dear Educator,

I am writing to inform you about a research study that I'm currently conducting on service-learning in design education. This research seeks to explore how and why service-learning is being incorporated into design-related subjects at tertiary institutions. It will contribute to the research degree of Doctor of Philosophy (Ph.D.) at James Cook University in Australia.

Throughout this study, design is broadly defined to include a range of areas—from communication design to product design, interaction design, service design, and design management. A web search has identified you as someone who teaches in one or more of these areas, thus your input may be most relevant and valuable.

What is service-learning? At its most basic level, "service-learning involves both service to the community and learning tied to academic curriculum" (Billig & Waterman, 2003, viii). Service-learning involves students and a community organisation partnering to address a need in the community. Facilitated learning takes place both in the classroom and in the community.

In the next week, you will be invited to participate in an online survey. The survey will include questions that relate to your experiences with service-learning, as well as community-based projects, real-world projects, and/or work-integrated learning initiatives. Your responses will remain anonymous. Data from the study will be used in the aforementioned Ph.D. research and may also appear in relevant conference papers and research publications. If interested, you may request to see a summary of the results.

I hope that you will consider participating in this research. Your responses will help to improve practice and build knowledge about service-learning in design education.

If you would prefer not to receive the invitation to complete this survey, or you have any questions about the study, please feel free to contact me using the details below or my research supervisor, Professor Ryan Daniel (ryan.daniel@jcu.edu.au).

Thanks in advance for your time and consideration. I really appreciate it.

Sincerely,

Mrs. Natalie Stephenson, Ph.D. candidate
School of Creative Arts
James Cook University
Townsville, Australia
natalie.stephenson@jcu.edu.au
Phone: +61 07 4781 3166

Contact 2: Cover letter (4-5 days after PAL)

Dear educator,

I am writing to extend an invitation to you for your participation in an international survey about service-learning in design education. In order to improve practice and build knowledge about service-learning in design education, we first must understand how and why service-learning is being incorporated into design-related courses at tertiary institutions.

If you are interested in giving your perspective to this research, please click on the link below to be forwarded to the survey site. If your computer asks you for security confirmation for the site SurveyMonkey.com please feel confident to accept the page. This is a highly reputable and safe software company.

Link to survey: http://www.surveymonkey.com/s/slide

It is estimated that the survey takes only 20-25 minutes to complete. The first page of the survey contains detailed information about this study. If you consent to participate, you will then gain access to the survey and see the percentage of completion as you progress. Your identity and contact details will remain strictly confidential. Your responses will remain anonymous.

I hope that you will seriously consider participating in this research. Your input will help to deepen our understanding of and shape approaches to service-learning in design education.

If you have any questions about the study, please contact myself (the principal investigator) or my research supervisor, Professor Ryan Daniel (ryan.daniel@jcu.edu.au).

Thank you for your time and consideration. I really appreciate it.

Sincerely,

Mrs. Natalie Stephenson, Ph.D. candidate
School of Creative Arts
James Cook University
Townsville, Australia
natalie.stephenson@jcu.edu.au
Phone: +61 07 4781 3166

Contact 3: Reminder (7-10 days later)

Dear educator,

Approximately one week ago, I invited you to participate in an international research study on service-learning in design education.

If you have already completed the survey, I sincerely thank you for taking the time to do that.

If you have not yet taken the survey, I hope that you will seriously consider completing this questionnaire, because your responses will help to improve practice and build knowledge about service-learning in design education.

If you are interested in giving your perspective to this research, please click on the link below to be forwarded to the survey site. If your computer asks you for security confirmation for the site SurveyMonkey.com please feel confident to accept the page. This is a highly reputable and safe software company.

Link to survey: http://www.surveymonkey.com/s/slide

It is estimated that the survey takes only 20-25 minutes to complete. The first page of the survey contains detailed information about this study. If you consent to participate, you will then gain access to the survey and see the percentage of completion as you progress. Your identity and contact details will remain strictly confidential. Your responses will remain anonymous.

If you have any questions about the study, please contact myself (the principal investigator) or my research supervisor, Professor Ryan Daniel (ryan.daniel@jcu.edu.au).

Thanks again for your time. I am most grateful for your help.

Sincerely,

Mrs. Natalie Stephenson, Ph.D. candidate
School of Creative Arts
James Cook University
Townsville, Australia
natalie.stephenson@jcu.edu.au
Phone: +61 07 4781 3166

Contact 4: Reminder 2

Dear educator,

I am writing to let you know that the online survey about service-learning in design education will be closing on December 20, 2011.

If you have already completed the survey, thank you for your time and participation.

If you have not given your perspective to this research, I hope that you will consider taking a few minutes to complete the survey.

Service-learning is a relatively new concept in Australia, thus your responses will help to improve practice and build knowledge about service-learning throughout Australian universities.

Please click on the link below to be forwarded to the survey.

Link to survey: http://www.surveymonkey.com/s/slide2

If you have any questions about the study, please contact myself (the principal investigator) or my research supervisor, Professor Ryan Daniel (ryan.daniel@jcu.edu.au).

Thank you again for your time. I really appreciate it.

Sincerely,

Mrs. Natalie Stephenson, Ph.D. candidate
School of Creative Arts
James Cook University
Townsville, Australia
natalie.stephenson@my.jcu.edu.au
Phone: +61 07 4781 3166

Information about this study

You are invited to complete an online survey that aims to learn about the design-related needs of nonprofit or not-for-profit organisations. This survey is part of a research study that is investigating service-learning in design programs at tertiary institutions. The study is being conducted by Mrs. Natalie Whitlock Stephenson and will contribute to the research degree of Doctor of Philosophy in Creative Arts at James Cook University, Australia.

What is service-learning?

Service-learning involves students and community partners working together to provide service to the community. Throughout the experience, educators facilitate learning that's tied to academic curriculum. Service-learning should be mutually beneficial for students and the community.

How long will it take to complete the survey?

It is estimated that the survey should take 20-25 minutes to complete. If interested, you may request to see a summary of the survey results.

If you have any questions about the study, please contact the principal investigator, Mrs. Natalie Stephenson, or her supervisor, Professor Ryan Daniel.

Principal Investigator:
Mrs. Natalie Stephenson
natalie.stephenson@my.jcu.edu.au

Supervisor:
Professor Ryan Daniel
ryan.daniel@jcu.edu.au

James Cook University
School of Creative Arts
Phone: +61 07 4781 3166

Ethics Approval Number: H3873

Informed Consent

I understand the aim of this research study is to find out how and why service-learning is being incorporated into design education. I consent to participate in this project, the details of which have been explained to me.

I understand that my participation will involve completing an online survey. My identity and contact details will remain strictly confidential. My responses and the data from the study will be used in the aforementioned research and may also appear in relevant conference papers and research publications.

I acknowledge that:
- taking part in this study is voluntary. I am aware that I can stop taking part in it at any time without explanation or prejudice, and I can withdraw any unprocessed data I have provided;
- any information I give will be kept strictly confidential and that no names will be used to identify me with this study.

✱1. I consent to complete the online survey.

◯ Yes

◯ No

Section 1: Background information

✱2. What is the name of your organisation?

[   ]

✱3. Where is the organisation located?

[▼]

City, State/Province:

[   ]

✱4. Please select the type of nonprofit that best describes your organisation.

◯ Arts, culture and humanities (e.g. art museums and historical societies)

◯ Education and research (e.g. preschools, adult learning programs, libraries)

◯ Environment and animals (e.g. humane societies and recycling programs)

◯ Health (e.g. hospitals, substance abuse programs, disease research)

◯ Human services (e.g. youth development programs, disaster relief, job training)

◯ International (e.g. foreign policy, global human rights)

◯ Public and societal benefit (e.g. neighborhood development, voter registration)

◯ Mutual and membership benefit (e.g. fraternal societies, retirement funds)

◯ Religion (e.g. houses of worship, faith-based media)

◯ Other (please specify)

[   ]

✱5. What is your organisation's mission?

[   ]

✱6. Does your organisation do any community outreach?

◯ No

◯ I don't know

◯ Yes, please briefly describe

[   ]

*7. Geographically speaking, what is the impact of your organisation?

◯ Local

◯ Regional

◯ Statewide

◯ National

◯ International

◯ Not applicable

*8. What is your role at the organisation? (check all that apply)

☐ Director, CEO, President

☐ Development, Fundraising

☐ Finance, CFO

☐ Operations, COO

☐ Marketing, PR, Graphic Design

☐ Human Resources

☐ Board Member

☐ Other (please specify)

[ ]

*9. What is your current status with this organisation? (Check all that apply)

☐ Full-time employee

☐ Part-time employee

☐ Casual employee

☐ Volunteer

☐ Other (please specify)

[ ]

*10. Does your organisation utilise volunteers?

◯ Yes

◯ No

＊11. How do you recruit volunteers? (Check all that apply)

☐ Through our website (e.g. a web form to get involved)

☐ Through our email database

☐ Through a mailing database (e.g. postcards)

☐ Through a volunteer-matching service(s)

☐ Via social media (e.g. Facebook, Twitter, etc.)

☐ Through word-of-mouth

☐ By speaking to groups at events

☐ By distributing printed brochures, flyers and/or posters around town

☐ I don't know

☐ Other (please specify)

[   ]

＊12. Which recruitment method is the most successful for you?

○ Our website (e.g. a web form to get involved)

○ Our email database

○ Our mailing database (e.g. postcards)

○ The volunteer-matching service(s)

○ Social media (e.g. Facebook, Twitter, etc.)

○ Word-of-mouth

○ Speaking to groups at events

○ Distribution of printed brochures, flyers and/or posters around town

○ I don't know

○ Other (please specify)

[   ]

＊13. What is your current status with regards to volunteer supply?

○ We have far too many volunteers.

○ We have too many volunteers.

○ We have a sufficient amount of volunteers.

○ We need more volunteers.

○ We desperately need more volunteers.

*14. Does your organization do any fundraising?

◯ Yes

◯ No

*15. How do you raise funds? (Check all that apply)

☐ Special events (e.g. auction, gala, etc.)

☐ Annual fund drive

☐ Capital campaign(s)

☐ Legacy gifts / Bequests

☐ Sell of goods and/or services

☐ Foundation grants

☐ Government grants

☐ Individual gifts

☐ Corporate gifts

☐ I don't know

☐ Other (please specify)

[   ]

16. What is the hardest part about fundraising?

[   ]

*17. How do you feel about your fundraising strategies?

◯ Very satisfied

◯ Somewhat satisfied

◯ Neither satisfied nor dissatisfied

◯ Somewhat dissatisfied

◯ Very dissatisfied

*18. What is the organisation's annual operating budget?

[▾]

*19. Do you have an annual marketing budget?

◯ Yes

◯ No

◯ I don't know

*20. Does your organisation have a strategic plan?

◯ Yes

◯ No

◯ I don't know

*21. Which one of the following statements most accurately describes your organisation's current culture?

◯ "We do things together." (collaborative)

◯ "We do things first." (innovative)

◯ "We get things done." (results-oriented)

◯ "We do things right." (structured)

Section 2: Design-related questions

The following questions ask about design as it relates to your organisation.

*22. Communication design, like a brochure or newsletter, combines visual and verbal content in a way that effectively communicates with people.

In your opinion, how important is effective communication with the following audiences?

	Not at all important	Slightly important	Important	Very important	Critical
Volunteers	◯	◯	◯	◯	◯
Donors	◯	◯	◯	◯	◯
Members	◯	◯	◯	◯	◯
Staff	◯	◯	◯	◯	◯

*23. How do you feel about the communication that your organisation currently has with the following audiences?

	Very dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Very satisfied	N/A
Volunteers	◯	◯	◯	◯	◯	◯
Donors	◯	◯	◯	◯	◯	◯
Members	◯	◯	◯	◯	◯	◯
Staff	◯	◯	◯	◯	◯	◯

*24. Industrial design is the process of constructing products, which can be digital, like assistive technology and mobile devices, or physical, like educational toys and furniture.

Does your organisation offer any products to the community?

◯ No

◯ Yes, please briefly describe the products.

[text area]

25. How do you feel about the quality of these products?

◯ The products are very good. They work extremely well.

◯ The products are good. They just need to be tweaked.

◯ The products are barely acceptable. There's room for improvement.

◯ The products are poor. They could be so much better.

◯ The products are very poor. They need to be re-designed.

Feel free to comment about these products

[text field]

*26. Service design is the activity of planning and organizing components of a service in order to improve its quality.

Does your organisation provide a service(s)?

◯ No

◯ I don't know

◯ Yes, please briefly describe the service(s) you offer

[text area]

*27. How was this service(s) developed? (Check all that apply)

☐ Collaboratively, with input from many voices

☐ Organically, it's morphed and changed over time

☐ Quickly, to meet an immediate, pressing need

☐ Carefully, based on research and data analysis

☐ Creatively, to be innovative and different

☐ I don't know

☐ Other (please specify)

[   ]

*28. How do you feel about the quality of this service(s)?

◯ The service is very good. It works extremely well.

◯ The service is good. It just needs to be tweaked.

◯ The service is barely acceptable. There's room for improvement.

◯ The service is poor. It could be so much better.

◯ The service is very poor. It needs to be re-imagined.

*29. Human-centered design is considerate of the user's experience with products and services, like your organisation's website and/or outreach programs.

Does your organisation consciously try to make products and/or services as user-friendly as possible?

◯ Yes

◯ No

◯ I don't know

30. What sort of feedback, if any, do you get from end-users?

◯ We never get complaints about our products and services.

◯ We rarely get complaints about our products and services.

◯ We sometimes get complaints about our products and services.

◯ We frequently get complaints about our products and services.

◯ I don't know.

✳31. To what extent do you need to make your products and/or services more user-friendly?

◯ They desperately need to be more user-friendly.

◯ They need to be slightly more user-friendly.

◯ They do not need to be more user-friendly.

◯ I don't know.

◯ Not applicable

32. 'Design thinking' aims to integrate 'design methods' into an organisation's culture as a way to collaboratively approach complex social problems and develop innovative solutions.

What sort of complex social problems does your organization face?

[   ]

33. To what extent does your organisation need to take a 'design thinking' approach to these complex problems?

◯ That approach is desperately needed.

◯ That approach is somewhat needed.

◯ That approach is not needed.

◯ I don't know.

✳34. Please rank the following design disciplines by need. 1=Greatest area of need. 4=Not needed as much.

[▼]	Communication design
[▼]	Industrial design
[▼]	Service design
[▼]	Human-centered design
[▼]	Design thinking

*35. Please indicate which of the following types of design your organisation 1) utilizes throughout a year, and 2) needs or needs help with.

	We currently USE this.	We NEED or need HELP with this.
Advertising campaign (e.g. ads in magazines & newspapers, digital ads, billboards, etc.)	☐	☐
Annual report	☐	☐
Collateral (e.g. brochure, folder with inserts, etc.)	☐	☐
Digital storytelling (e.g. animation or video)	☐	☐
Environmental graphics (e.g. wayfinding sign systems, building signage)	☐	☐
Event promotion (e.g. event logo, invitations, posters, direct mail postcards, etc.)	☐	☐
Exhibit design	☐	☐
Interactive media design (e.g. DVD, educational game, kiosk, etc.)	☐	☐
Interior design	☐	☐
Landscape architecture (e.g. community garden, landmark, park, etc.)	☐	☐
Logo(s)	☐	☐
Mobile app	☐	☐
Publication design (e.g. magazine, newsletter, catalogue)	☐	☐
Premium items (e.g. t-shirts, hats, cups, etc.)	☐	☐
Stationery (e.g. letterhead, business cards, thank you cards, envelopes)	☐	☐
Website design, development and/or maintenance	☐	☐

Other (please specify)

[   ]

✱36. With regards to creative services, what does your current budget allow you to do?

( ) Everything we need to do

( ) Most of what we need to do

( ) About half of what we need to do

( ) Less than half of what we need to do

( ) Little to nothing

( ) I don't know

✱37. How does your organisation currently produce design?

( ) We contract out all creative services (paid)

( ) We seek volunteers to do pro-bono design

( ) In-house by a person trained in this area

( ) In-house by someone not trained in this area

( ) A mix of contract and in-house

( ) I don't know

( ) Other (please specify)

[   ]

Section 3: Working with design students

The following questions relate to working with design students from a tertiary institution. In this survey, "tertiary institution" includes universities, community colleges, technical schools, etc.

✱38. Has your organisation ever worked with students from a tertiary institution?

( ) Yes

( ) I don't know

( ) No, why not?

[   ]

39. If yes, please briefly describe that experience.

In what capacity -- volunteer, intern, class project?

_____

Was it positive or negative?

_____

How many students have you worked with?

_____

How often or how frequently?

_____

*40. Would you be interested in receiving some creative services from design students who attend a local tertiary institution?

◯ Yes

◯ Maybe, it depends...

◯ No, why not?

_____

*41. How would you prefer to work with design students? (check all that apply)

☐ In an internship capacity

☐ During a class project

☐ As volunteers

☐ No preference

☐ Other (please specify)

_____

*42. Where would you prefer to work with design students? (check all that apply)

☐ At our office

☐ Remotely

☐ On campus

☐ A combination of on- and off-site

☐ No preference

☐ Other (please specify)

_____

43. How would you prefer to communicate with design students? (check all that apply)

☐ Email

☐ Phone

☐ Face-to-face

☐ Social media

Other (please specify)

[   ]

44. What would you hope that a design student might learn from your organisation? (check all that apply)

☐ Business / professional skills

☐ Industry-specific knowledge

☐ Communication / negotiation skills

☐ Civic responsibility

☐ Time management

☐ Other (please specify)

[   ]

*45. If a design student worked with your organisation, would they have the opportunity to...

	Never	Rarely	Sometimes	Always
Develop empathy with stakeholders (e.g. staff, volunteers, donors, members)?	○	○	○	○
Learn about the contextual forces that shape a project?	○	○	○	○
Solve communication problems?	○	○	○	○
Work on a project early on, during the planning phase?	○	○	○	○
Engage in systems-level thinking?	○	○	○	○
Work with multi-disciplinary teams?	○	○	○	○
Use a variety of tools and technologies?	○	○	○	○
Practice ethically	○	○	○	○
Build arguments for proposed solutions	○	○	○	○

*46. Would a design student need to have their own equipment (e.g. a computer, Adobe Creative Suite, camera, etc.)?

◯ Yes, we don't have any equipment

◯ No, we have the equipment

◯ We have some equipment, but not all

47. What sort of benefits, if any, would you anticipate from working with design students?

[ ]

48. Do you have any concerns about working with design students from a tertiary institution?

◯ No

◯ Yes, please briefly describe your concerns

[ ]

Last page

49. Would you be willing to participate in further research about this topic, which may involve an interview about your experiences?

◯ No

◯ Yes (please provide your contact information and your preferred mode of contact)

[ ]

50. Would you like to see a summary of the results from this survey?

◯ No

◯ Yes (please provide your email address to receive a summary of the results)

[ ]

Please click 'Done' to submit your responses. Thank you for participating in this study.

Appendix D: Questions to guide the in-depth interviews
Phase 2: Case Study Research | Natalie Stephenson | Ph.D. Candidate | James Cook University

I did an online survey about a year ago with design educators in the US, UK and Australia. It provided a general understanding of what's currently happening with regards to service-learning in design education. I'm hoping to learn more in-depth information during this phase of research, so I've developed some questions to guide our conversation. Do you have any questions about my study?

1. **The first set of questions is about one service-learning project.**
   a. So I'll give you a second to think about one project, either successful or unsuccessful.

2. **The second set of questions is about your experience as a whole.**
   a. These questions are more general, whereas the first set is more specific.

It should take about an hour. If at any time you'd like to stop, just let me know.

Do you mind if I record our call? YES or NO

Before – Planning the project

1. Tell me a little bit about the service-learning project.
   a. Who was the partner? What did they need?
   b. Students – How many? What level?
      i. Was their participation voluntary or required as part of a class?

2. How did the project come about? When did it start? How long did it take to plan?
   a. How did you find the community partner? Personal contact, school, other
   b. Did you apply for a grant or have any other support?

3. What was the **design objective**? What were students trying to make?
   a. What was the overall goal or objective (e.g. build awareness, behaviour change, skills transfer, connect)?

4. What sort of **"service"** were students providing? What was the role of "service" in this project?

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  a. How concerned were YOU with the root cause? And STUDENTS?

   i. Low to High?

  b. How invested were YOU in the relationship with the community partner? And STUDENTS?

   i. Low to High?

5. **Learning objectives**

  a. What did you want students to learn or take away from this experience?

  b. Were the Learning Objectives in the Subject Outline / Syllabus?

   i. If so, may I have a copy of that doc?

  c. Did the learning objectives align with the community partner's needs?

   i. If not, how did you manage that?

  d. Which of the following domains did you focus on the most?

   i. **Intellectual** – learning about content or developing skill

   ii. **Moral** – developing civic responsibility and values

   iii. **Political** – striving for systemic change in the community

6. Was there a "design brief" or "project brief"?

  a. If yes, how was it written?

   i. By you or the students? Was the partner involved?

  b. May I have a copy of the brief?

7. In addition to problem solving, **were students involved in problem finding?**

  a. Did the project involve students solving a **communication problem**?

8. How did you determine the **project scope**?

  a. Did you (or students) have to explain the potential of design to the community partner?

During the project - The next few questions are about logistics during the project.

9. In what ways did students see how **context or external forces** shape a project?

Were there any constraints, barriers or sensitivities around the following:

   a. Financial issues?

      i. Did your community partner have a budget for production (printing, etc.)?

   b. Social issues?

   c. Cultural barriers (language)?

   d. Political?

   e. Technological?

10. Did students go off campus?

   a. If so, where? How often? Why?

   b. If not, why not?

11. Did students ever interact directly with end-users or members of the community? For example, Interviews? Observation? Usability testing?

   a. If yes, do you think this helped them to develop **empathy**?

   b. If not, were there other ways that you think students may have developed empathy with users?

12. How did the students work -- individually and/or in **groups**? Why?

   a. If groups, how many students in each?

      i. Pros and cons of teamwork?

   b. Did students have specific **Roles** and **Responsibilities**?

   c. Did the students get any input from disciplines outside of design?

      i. Which ones? Why? For what?

13. Did any part of the project involve co-design with the partner or members of the community? Briefly explain.

14. When developing concepts, was there any discussion about the big picture (i.e. how a solution might fit within a **larger system**)?

   a. If yes, how did that conversation go? If no, why not?

15. What **tools & techniques** did students use during the design process?

    a. Research methods?

    b. Sketching? Drawing?

    c. Adobe CS? CAD?

    d. Anything else?

16. Feedback

    a. Were there any interim critiques at project milestones?

        i. How often? With whom?

    b. How did students receive feedback?

        i. In front of the class or one-on-one?

    c. Did you provide any advice on how to handle the feedback?

17. Was **reflection** a part of the project?

    a. Were students asked to keep journals or write blog posts?

        i. If blogs, any concern with client **privacy**?

    b. Did you **debrief** after client meetings or project milestones?

18. **Presenting**

    a. Did students present to the community partner?

        i. Format – low-tech or digital?

        ii. If digital, may I have a copy of the presentation file?

    b. Before presentations, was there any in-class discussion about **building arguments** for solutions? How to pitch? How to sell an idea?

    c. Did students ever get into the business side of a design?

        i. Did they build a solid **business case** (i.e. why their solution would work or be feasible)?

19. How did you **assess** this project?

    a. Did students receive a **grade** for their work?

        i. If so, what was the grade based on? Grading criteria?

          ii. Did you use the same sort of grading criteria as a non-SL project, or was it different?

          iii. Did you use a grading rubric?

               1. If so, may I have a copy of that?

   b. Who was involved in assessment?

          i. You, peers, client, other?

   c. Were the final grades higher than, similar to, or lower than grades in other, non-SL classes?

20. Client Communication

   a. Point of contact:

          i. On academic side – you or the students?

          ii. On client side – CEO, Marketing manager, etc.?

   b. Keeping the client in the loop

          i. Frequency of communication?

               1. Daily, weekly, milestones, etc.

          ii. How did you communicate?

               1. Email, phone, social media, face-to-face

   c. Did you discuss the importance of nurturing the client-designer relationship with students?

   d. Do you think students developed **empathy** with your community partner?

          i. What affected their ability to develop empathy with the client?

21. Ethical practice & Legal stuff

   a. Did students sign a **consent form**? If so, what did they consent to?

          i. Was there any discussion about **copyright**? Who owns the work? Royalties? Intellectual property?

   b. Were there any issues with **plagiarism** during the project?

   c. Do you think SL helps students be ethical practitioners? Why or why not?

After - The following questions are about wrapping up a part or all of a project.

<mark>22. Did the partner use any or all of the student work?</mark>

    <mark>a. If no, why not?</mark>

        <mark>i. Do you still think the experience was valuable for them?</mark>

    b. If yes…

        ii. How did they choose? What did they base their decision on?

        iii. Was your input part of the decision-making process?

        iv. Do you have a sample of the work? Could I see it?

        v. How was it finalized? Who finalized it? When was it finalized - before or after the semester ended?

        vi. Was the student(s) credited as the designer?

23. Is the relationship with this partner still going or did it end?

    a. Length of engagement? Weeks, semester, year, +

    b. If long-term, how did you develop a **sustainable relationship**?

24. Was this a pro-bono design project or did the client pay?

    a. If the 'client' paid for services, which pricing model did you use – fixed fee, hourly rate, cost of materials, etc.? Were students compensated?

25. Did the project receive any recognition from the school? Awards?

26. Did the project get any other press or attention?

    c. Newspaper? On the news?

    d. Any privacy issues for client with this coverage?

27. If I have any outside-in questions, could I contact the community partner?

    e. If yes, may I have their contact details?

This is the last section.

The following questions asked about your experience in general –

Pros & Cons / Benefits & Challenges / Successes & Failures.

28. In your opinion, what makes a SL engagement succeed?

    a. What makes a good SL partner?

29. Have you ever had a SL project that you'd regard as a **FAILURE**?

       b. Why do you think it failed?

       c. How did you handle that?

       d. What can you learn from failure?

30. Are there any other teaching models that you've used with service-learning?

31. Any other experience with SL outside of "class projects"?

       a. SL extra credit?

       b. Supervise internships with Non-profits?

       c. Activism?

       d. Volunteerism?

32. What **differences**, if any, do you notice b/w SL projects and non-SL projects?

33. What sort of **Challenges** does SL pose for **Design Students**? (e.g. Timeliness of info gathering or getting feedback from client)?

34. What sort of short-term **Benefits** do you think SL has for **Design Students**?

       e. During SL projects, do you notice a difference in student engagement with the subject?

       f. How about long-term benefits for students?

             vii. ==Any feedback from students about how SL impacted their job search or professional practice?==

                 1. Evidence (e.g. inclusion in portfolio, graduation rate)?

                 2. Are there any students that I could contact?

35. What do **YOU** get out of SLIDE? What sort of **Benefits** does it have for you?

      g. Does it factor into your annual evaluation, university service, promotion/raise? Ever received a reward or other recognition?

      h. Have you ever had a lighter teaching load to focus on an SL project?

      i. Does your school record volunteer/service hours?

36. Any **Challenges** for you? Time involved in planning, coordinating and finalizing?

      d. Have you ever encountered issues with the academic calendar not aligning with the community calendar?

           i. Flexibility vs. structure with regards to deadlines, etc.

If I have any other questions or need to clarify something, would it be okay if I email or call you?

Thank you for taking some time out of your day. I really appreciate it.

1) Please briefly describe your role and responsibilities during the design project.

2) How concerned were you with the root cause (XYZ) during the project – Low, Medium, High?

3) How invested were you in the relationship with XYZ – Low, Medium, High?

4) How much did this project help you develop competency in the following areas? *(1= Not at all, 2= Slightly helpful, 3= Somewhat helpful, 4= Very helpful, 5= Extremely helpful)*

   a) Working in multi-disciplinary teams: 1, 2, 3, 4, or 5?

   b) Problem-finding: 1, 2, 3, 4, 5?

   c) Developing empathy with stakeholders, including the organisation's employees and service users: 1, 2, 3, 4, 5?

   d) Engaging in systems-level thinking: 1, 2, 3, 4, 5?

   e) Using a variety of design tools, methods and technologies: 1, 2, 3, 4, 5?

   f) Solving communication problems: 1, 2, 3, 4, 5?

   g) Understanding the contextual forces that shape a project: 1, 2, 3, 4, 5?

   h) Building arguments for proposed solutions: 1, 2, 3, 4, 5?

   i) Practicing ethically: 1, 2, 3, 4, 5?

5) What did the experience teach you about design?

6) Do you regard the work that you were doing as community service? Please explain.

7) Was the experience beneficial for you in any other way (e.g. job search, personal development, research interests, etc.)? Please explain.

8) How did working on a design project that addressed a community need compare to class projects where that is not the case?

9) With regards to assessment, what do you think your mark on a project like this should be based on? The same criteria as other design projects or something different?

Any other comments:

Appendix F: Community Partner Survey

1. Before this project, had you ever worked with design students? If so, please briefly describe that experience (positive or negative? in what capacity?).

2. In addition to XYZ, did your organisation have any other design-related needs? If so, please briefly describe those.

3. How was it determined to focus on XYZ first? Were those the components that you needed most?

4. Please briefly describe the first meeting with students. How did you prepare? What did you discuss? How did you feel afterwards?

5. From the beginning of the class project, was there anything that you were hoping the students would learn from your team or this experience?

6. From your perspective, what was it like to participate in the design process?

7. What sort of feedback did you give the students at project milestones?

8. Overall, what did you think about the quality of the students' design work?

9. How did you select the final X design? What did you base that decision on?

10. What, if anything, did you learn from the students or the experience in general?

11. With a live project like this, what do you think a student's mark should be based on?

12. If you could change one thing about the whole experience what would it be?

13. How has your organization benefited from having this design (e.g. secured funding, gained exposure, built awareness, short- and long-term benefits, etc.)?

14. Would you consider working with design students via a class project again?

Appendix G: Invitation to Participate in Case Study Research

Dear [INSERT EDUCATOR'S NAME],

In 2011, you completed an online survey about service-learning in design education. Thank you again for your responses. I am contacting you today because you expressed interest in participating in future research.

I am currently conducting case study research as a way to explain some of the survey results. Participating in this phase would involve a phone interview about your experiences with service-learning, which should only take about an hour. We can coordinate a time in the coming months that is most convenient for you.

If you are selected, I will first administer an online survey with non-profit organizations in your area so to learn more about the design-related needs in our local communities. This would not involve any extra work for you, and I will gladly share a summary of these survey results should you decide to participate.

If you are interested, please let me know by Friday, June 14th. I would greatly appreciate it.

I am happy to contact you by phone to provide further information about this next phase of research. Alternatively, if you would like to call me at a time that suits you, my phone number is +1-910-599-0787.

Best regards,

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