OVERVIEW

Goal Statement/Need:

Each year approximately 1.5 million Americans suffer an acquired brain injury (ABI) (Thurman, Alverson, Dunn, Guerrero, & Sniezek, 1999). More importantly, 4,600 residents of New Hampshire experience ABI annually (BIANH, 2004). The needs of this population as noted in the literature are to (a) increase community participation, (b) to find meaning in everyday activities, (c) to use language as a social skill and connector and, (d) to increase overall quality of life (Cicerone, Mott, Azulay, & Friel, 2004; Davis, Stern, Sise, & Hoyt, 2005; Leith, Phillips, & Sample, 2004; O'Connor, Colantonio, & Polatajko, 2005). Therefore, it is critical for community-based brain injury programs that address these long-term needs to develop a system to substantiate the efficacy of meeting such needs. In addition, applied research which measures—precisely and quantitatively—the effectiveness of such programs will have a tremendous impact on improving the overall quality of life for survivors of ABI.

The overall goal of this collaborative partnership between UNH College of Health and Human Services and SteppingStones (SS), a community-based brain injury program in the NH seacoast area, is to develop and implement an outcome measures program for adults with ABI. SS is a multi-disciplinary/multi-modal programming and service learning center. Students from Occupational Therapy (OT), Communication Sciences and Disorders (CSD), and Recreation Management and Policy-Therapeutic Recreation option (TR) work together to facilitate group activities that address existing needs of adults with ABI. To meet the goals of this project the following were addressed: (a) quantitative validation of member reports of increasing
community participation and quality of life, and (b) measure UNH student interns’ awareness of and knowledge gain around service learning.

**METHODS AND DATA ANALYSES**

**Methods and Procedures:**

To address the problem stated above the progression of this project occurred in four stages. These stages followed this timeline:

- Planning Stage of Outcome System (From 2006 SURF grant): June – September 2006
- Implementation Stage for Assessment Baseline Data for SteppingStones Members and UNH Student Interns: September – November 2006
- Post Assessment Follow-Ups: April – June 2007
- Data Analysis and Report Writing: June – September 2007

The mission of SS is to provide people living with ABI regular opportunities for social interaction, life skill training, recreation, and support. The following assessment tools were utilized to measure outcomes associated with the mission of SteppingStones.

- The *Wisconsin HSS Quality of Life Inventory* (Collins et al., 2000)
- The *Community Integration Questionnaire* (CIQ) (Willer, Rosenthal, & Kreutzer, 1993)
- The *Canadian Occupational Performance Measure* (COPM) (Law, Baptiste, McColl, Opzoomer, Polatajko, & Pollock, 1990)
- Quality of Communication Life Scale (Paul, Frattali, Holland, Thompson, Caperton, & Slater, 2004)
- *NeuroBehavioral Functioning Inventory* (Kreutzer, Marwitz, Seel, & Serio, 1996)
- The *Community-Based Learning Student Intern Survey (CBLSIS) (Pre and Post)* (Adapted from the Community-Based Learning Survey: Gelmon, Holland, Driscoll, Spring, & Kerrigan, 2001)

- Semi-structured interviews designed to assess students’ perceptions about the nature of their service-learning involvement, role in the course, understanding about linkages between course content & the community, challenges of engaging in service-learning courses. The interview also probes students’ fears & concerns related to participation in community, and assesses the self-awareness that emerges as result of experience (Adapted from the Community-Based Learning Survey: Gelmon, Holland, Driscoll, Spring, & Kerrigan, 2001).
SteppingStones’ member assessments were administered by interns in the Departments of OT, CSD and TR with the supervision and support of faculty. Volunteers from the SteppingStones program and trained graduate students administered the CBLSIS to student interns. Trained graduate students conducted the semi-structured interviews with student interns at the conclusion of their service experience.

**Data Analyses:**

Descriptive analyses, dependent t-test and regression statistics were utilized through SPSS to develop outcome report to guide program development at SS. Student surveys were also analyzed to measure how this community experience influenced learning around service and community-based care. Student survey data was analyzed quantitatively using SPSS. Analysis included frequencies and other descriptive statistics, as well inferential statistics employing the Wilcoxon nonparametric paired test (signed ranks test). Student interview data was qualitatively analyzed by two of three investigators through a three stage process proposed by Taylor & Bogdan (1984): (1) identify concepts and develop themes; (2) code data and refine subject matter; and (3) understand data in context in which it was collected. Six themes were generated by noting regularities and salient categories that emerged from data.

**JUSTIFICATION OF STUDY:**

**Evidence of External Collaboration & Partnership:**

The Krempels Brain Injury Foundation (TKBIF) was established in 1995 to support survivors of ABI with financial support in the way of grant opportunities. In 2000, TKBIF developed SS to assist survivors of ABI meet their long-term challenges. In its inaugural year, SS teamed up with the Department of OT at UNH’s College of Health and Human Services (CHHS) to develop a reciprocal relationship that provided members an opportunity to interact with student interns and faculty and address their long-term needs.

Currently, SS has increased its membership from five in 2000 to 160 (60 active members) in 2006. In addition, UNH’s CHHS now provides SS with faculty and student interns predominately from the Departments of OT, CSD, and TR. During the spring semester 2006, 45 student interns and five faculty members from CHHS participated in the SS program.
The reciprocal relationship between TKBIF/SS and departments in the CHHS provides a learning environment for students, a valuable resource for members and caregivers, and an outlet for the academic and research initiatives of faculty.

**Expected Impact:**

This project was expected to add validation to a dynamic and successful program. In addition, this project was expected to identify areas that will strengthen the program and provide members with services to enhance their current resources. The impact was measured through quantitative outcome measures. The measurement of student learning generated outcomes that can guide class structure and interdisciplinary concepts used with UNH students participating in the SteppingStones Program.

Results of this study will be disseminated to a variety of professional and public meetings at local, regional, and national levels. It is anticipated that these findings will be published in peer-reviewed interdisciplinary as well as OT, CSD, and TR journals. Recent research identifies a need for publication of outcome measures to validate community-based programming (Leith et al., 2004; Man, Lee, Tong, Yip, Lui, & Lam, 2004; Mateer, Sira, & O'Connell, 2005).

**Scholarly Connection:**

The three co-investigators on this proposal are all currently involved with academic, scholarship, and outreach projects at SteppingStones. Each investigator has begun to develop programs of research that explore the long-term needs of survivors of ABI. Pilot studies have been successful in supporting the use of the stated methods proposed for this investigation. This project will further develop the long-term research agendas for the principal investigators, laying the groundwork for subsequent individual and collaborative initiatives. Subsequently, we have begun to identify several internal and foundation funding agencies to support these initiatives. These include the UNH President’s Fund for Excellence, the New Hampshire Charitable Foundation, and the Endowment for Health.

In the summer of 2006, Dr. Fraas began initial inquiry into the proposed project. A SURF grant awarded to his student supported initial investigation into the characteristics associated with a successful community-day program for ABI. Results of the preliminary analysis validate the types of programming initiatives currently implemented at SteppingStones.
In addition, Dr. Fraas’ involvement with TKBI F Oral History project has paved the way for substantial qualitative investigations examining the impact of SS on the lives of members.

Dr. Simmons completed his dissertation work in 2005. His work looked at the variables that best predicted changes in perception of life quality for survivors of brain injury (Simmons, 2005). Therefore this project allowed him the opportunity to expand upon his original work as well as explore additional variables. The goal of this work is to make sure programming being delivered by occupational therapists in such settings is addressing those variables that appear to significantly influence quality of life.

Professor Craig is currently in the dissertation process in the education department at UNH. Therefore, the research associated with student learning has had an impact on the direction of her future research. She conducted pilot tests of the student learning survey with student interns at SteppingStones in the fall 2005 and spring 2006 semesters. To truly understand the impact of service-learning pedagogy, multiple constituencies must be addressed simultaneously. Thus, future phases of this project will examine service-learning outcomes for students (inclusion of focus groups), faculty members who are teaching service-learning courses, service providers such as the staff at SteppingStones, and the institution (UNH).

Findings from this project may have significant implications for development of future community-based day programs for brain injury rehabilitation. A manual for replication of the SS program is currently under development. The addition of quantitative outcome measures validating the effectiveness of the SS model allows for dissemination of the manual to other communities in need of such resources.

**Project Assessment:**

Publication of our findings in peer-reviewed journals will validate the success of our project. However, we also plan to collect reports from participants to validate the outreach component. In addition, student interns’ reports about what they learned regarding ABI quality of life issues, the research process, and a multi-disciplinary/multi-modal approach to ABI rehabilitation will help validate the scholarship and academic components.
Justification for Interdisciplinary Approach:

The necessity for providing a multi-disciplinary approach to addressing the needs of survivors of ABI has been well acknowledged (Ben-Yishay & Prigatano, 1990; Howe & Schwartzberg, 2001; Ruff, 2005). Multi-disciplinary interventions provide mutual validation of the therapists, enhanced recognition of therapist by the survivor of ABI, consistency in therapeutic techniques, and enhanced application of expertise toward the survivor’s progress (Andrews, Gerhart, & Hosack, 2004). Survivors of ABI make significantly higher gains throughout multi-disciplinary treatment compared to those without a multi-disciplinary approach (Semlyen, Summers, & Barnes, 1998).

RESULTS:

Characteristics of Successful Community-Day Programming for Adults with Brain Injury

An initial investigation surveyed participants in the SteppingStones program to determine what needs were most important to them and whether or not the program was meeting these needs. The investigation reported on the effectiveness of a community-based approach to addressing the long-term needs of survivors of ABI. Participants of the program reported that cognitive, emotional, and social needs were important long-term issues for survivors, and that the SteppingStones program is successful in meeting these needs. The participants also identified transportation, caregiver support, knowledge of community resources, and community education as unmet needs. While it appears that this particular program is meeting many long-term needs, how to meet others requires further exploration.

Wisconsin Quality of Life Inventory (WIQ)

The WIQ (Collins et al., 2000) is a self-report measure designed specifically for use with individuals with disabilities such as brain injury. The instrument consists of 60 items that are broken down into five subscales. The instrument is theoretically based in the work of Abram Maslow (1968) and is considered a needs based quality of life scale. The constructs of the measure are, (a) physiological needs, (b) safety and security needs, (c) love and belonging needs, (d) self-esteem needs, and (e) self-actualization. Each construct has a score range of 0-48, and the measurement produces a total score with a range of 0-240.
The participants reported the following construct mean scores and total mean score on the WIQ: (a) physiological needs (34), (b) safety and security needs (34), (c) love and belonging needs (39), (d) self-esteem needs (36), (e) self-actualization needs (37). The participants recorded a mean total score of 180.62. It is interesting to note that love and belonging and self-actualization score are the highest and appears that SteppingStones could be enhancing participant’s feelings of friendship and support. The total quality of life score of the participants is around ten points higher than other brain injury survivors who completed this measure (Collins, Lanham, & Sigford 2000) indicating the need for further research to determine if this increase in quality of life is related to attending SteppingStones.

Quality of Communication Life Scale

Preliminary findings have determined that participants in the current investigation showed no differences in the quality of their communication life based on age, gender, or diagnosis. However, further investigation is required to determine the impact that length of time since injury or time involved in the SteppingStones program has on communication quality of life.

Community Integration Questionnaire (CIQ)

The CIQ (Willer et al., 1993) was used to measure how active participants are in the community and if they are active with other people or if they appear to be developing friendships and support. The CIQ is a 15 item questionnaire that measures extend of participant’s community integration. The produces three subscales and a total integration score. The subscales consist of (a) home integration, (b) social integration, and (c) productive integration. Home integration has a score range of 0-10, social integration has a score range of 0-12, and productive integration has a score range of 0-7. The total score of the CIQ has a score range of 0-29. Participant’s produce a mean score of 5.1 on home integration, a mean score of 8.2 on social integration, and a mean score of 3.4 on productive integration. On average participants’ produced a mean total score of 16.5 on the CIQ.

Again it is interesting to note that the social integration score is high for this group of participants. The social integration score measures doing things outside of the home and
whether or not you do these activities with other people. It appears again that SteppingStones could be enhancing friendship development and social support for its members.

Comparisons between Communication, Quality of Life, and Community Integration inventories

Preliminary analysis has determined that a relationship exists between mean Quality of Communication Life Scale and mean scores on the Wisconsin Quality of Life measure. A Pearson correlation was found to be statistically significant \[r = + .45, n = 27, p < .05; \text{two tailed}\]. We hoped to find a relationship between QOL and Communication. We would like to determine how significantly communication impacts overall QOL. In addition, a relationship was found between scores on the Wisconsin Quality of Life and the Community Integration Questionnaire. This relationship was also statistically significant \[r = + .40, n = 27, p < .05; \text{two tailed}\]. This may indicate that successful integration back into the community is a predictor of overall QOL. No significant relationship was found between scores on the Quality of Communication Life Scale and the Community Integration Questionnaire. Further analysis is required to exam these relationships in further detail.

Neurobehavioral Functioning Inventory

Comparisons were made between age groups on six factors of the NFI. A statistically significant difference was found on two of these factors: depression, and aggression. This indicates that some age groups were more depressed than others and that some age groups exhibit more aggressive behaviors than others. No differences were found with regards to memory, motor function, somatic, or communication. Further analysis to determine specific age group differences and potential differences based on length of involvement in the SteppingStones program is required.

Outcomes of Service Learning on College Students in Health Professions

This investigation sought quantitative and qualitative data about students’ learning in a service learning experience. This study examined the impact of service learning on students’ perspective on learning, view of service, choice of career, and perspective on working with diverse communities. Quantitative and qualitative findings were interpreted separately but will be discussed in an integrated manner in this section. It was expected that students would begin
this service experience with high pre-test scores given the fact that the experience is consistent with the reason why they have chosen an allied health major. Students had chosen to be in this major and/or chose the specific community-based class, thus it makes sense that their values and attitudes toward the experience would be high to start the experience. Due to this expectation, the investigator clustered a number of survey questions dealing with attitudes and values and statistically examined four pre-selected clustered comparisons and one stand-alone item using the Wilcoxon nonparametric paired test (signed ranks test). Even with a ceiling effect observed during pre-testing phase, three out of five clustered comparisons proved statistically significant (p<.05). The results are presented based on the four pre-selected clustered comparisons and the one stand-alone item. Supportive qualitative data is included for each clustered comparison where appropriate. One stand-alone qualitative theme that was not directly supportive of the quantitative findings is presented at the end of this section.

Clustered Comparison 1: Value of Service Learning to Academic Learning

    Quantitative Finding #1: Students in CSD, OT, TR, & related human service disciplines view a service learning experience as being valuable in their understanding of course content and academic learning. The improvement in mean scores from pre to post-test indicate that in the beginning of the experience, students did not anticipate that the service experience would be critical to their classroom learning, however, at the conclusion of the experience students acknowledged that the service experience did, in fact, help them learn course content better. This finding is consistent with service learning literature. In a compilation of service learning efficacy research outcomes, Eyler, Giles, & Gray (2000) share studies that show that students report that service learning has a positive impact on their academic learning.

    Qualitative Themes #1 & #2: Qualitative results are consistent with this quantitative finding as two critical themes emerged suggesting that the service learning experience (1) contributed to students’ academic learning and (2) allowed them to apply what they learned in the classroom to the “real world.” Across the three disciplines, students were expected to learn how to work with persons who had acquired a brain injury or stroke. Through this service experience, students not only obtained population specific knowledge and skills but discipline specific knowledge and skills as well. These two main competency categories reflected course
learning objectives for all three disciplines. Relating to population specific knowledge, students acknowledged an increased sensitivity and awareness of challenges encountered by people who had experienced brain injury and stroke, especially in areas related to cognitive, physical, and emotional deficits, vocation, family changes, communication, economic challenges, barriers to full participation in the community, and stigma. Students learned about specific manifestations of brain injury and stroke. When asked what she learned about the community through this experience, one student noted:

I learned about the symptoms that are associated with traumatic brain injury. I guess before [this class], I thought of traumatic brain injury as just one term, but now I have seen the whole range of it. Not every injury is the same; there are so many different components and aspects to it.

Another student articulates a clear connection between the course content and her increased knowledge of brain injury as a result of her involvement at the program:

I learned a lot about the real-life applications of traumatic brain injury. In the course we talked a lot about the implications of various types of brain injuries. I learned a lot about not only how it can present itself, but the possibilities for treatment. A lot of these members showed themselves in the final stages of treatment. Whereas as a clinician, if you are working in acute care, you see someone with a brain injury and you have no idea what their capabilities are. This experience showed me that this is where you can get with a person.

A majority of the population specific knowledge was communicated through member “stories.” These stories resonated with students and they acknowledged that they learned more from the members than the members learned from them. One student commented, “I got a lot out of listening to some of the members’ stories, in respect to the difference before and after [injury], and that had a big impact on me. It made me more appreciative, and more aware of being safe and careful.” Another student attests to the impact that these stories had on her career aspirations:

I loved just sitting down at lunch and talking with them [members]…I feel like they gave me way more than I gave them because they helped me realize that this is what I want to do for the rest of my life and I enjoy it and that’s a huge thing. Just the fact that they were willing to share their stories with all of the members and students, that’s a huge thing too.
A graduate student confirms the role members played in her learning: “I learned the most from the members. In courses you were taught theories, but all intervention is individualized. That is really what this experience has shown me.” Another student’s comment illustrates the impact of member stories to her learning:

I learned the most from the members…all of the members were all very open about what happened to them, and what they are going through, and what pains they are experiencing, and their frustrations. So I learned a lot from them, and it made me more sensitive to certain things and areas regarding doing certain activities.

In addition to the acquisition of population specific knowledge and skills, students suggested that this service experience allowed them to practice and acquire discipline specific knowledge and skills. Students were able to observe and interact with “real” deficits exhibited by “real” persons with brain injury and stroke and were expected to respond appropriately to these deficits with discipline specific expertise. For instance, students from CSD who encountered individuals with speech and language limitations were required to understand these challenges in the context of the members’ lives and work to remove communication barriers for these members. They were required to put to use the course materials related to aphasia and augmentative and alternative communication devices and processes. One CSD graduate student’s comment highlights this finding:

A paper that I wrote as a result of this course was about augmentative and alternative communication and I worked with a member that uses an AAC device. On the very first day she was typing out a message, and the person she was communicating with was looking over her shoulder trying to finish her sentence. My question for her was, ‘do you like it when people finish your sentences?’ and she was like, ‘absolutely not’…from this, I really learned how much I didn’t know about people using devices, and people who have certain communication needs. I learned a lot more about patience when it came to interacting with people who use devices to communicate.

For students across the three disciplines, leading groups allowed for the development of therapeutic group facilitation and process skills. They became highly aware of their personal leadership styles as well as those of their peers in other disciplines. They became more proficient in planning for and running groups, practicing group time management, redirection skills, and limit setting. A student articulates her improved ability to cover key structural components of a group:
I learned group facilitation, big time. I learned the intro, the main course of group and the end; I learned how important these components are, and how to facilitate them properly for the members to get the most out of the group, because that is the main idea.

One student discusses her evolution as a group leader:

I learned a lot of things in regards to facilitating groups with members. I learned that patience is number one. We thought we would be done with our filming in four weeks, and it actually took the whole semester. We didn’t really know how to lead a group very well, so we were rolling with the punches. I felt like my patience increased, and my way of observing and when to step in and cue somebody increased. This was something that I gained more confidence in as time went on. I also realized that I was able to direct discussions in certain ways, and that again was something that I didn’t realize I could do. I felt really confident in asking the right questions as time when on.

In addition to the acquisition of population and discipline specific knowledge and skills, students articulated the importance of “real world” engagement to their development. The “real world” nature associated with their course allowed students to practice their classroom knowledge in a supportive learning environment that produced “human” consequences rather than just a class grade. One student’s comment underscores the significance of having the opportunity to practice the skills outside of the classroom: “You can only learn so much from watching a slide in a classroom setting. It is easy to read the slide, but using the knowledge is not as easy.” Students acknowledged that this increased responsibility yielded real life consequences for members with brain injury and stroke and this made them feel important and needed. Two students’ comments highlight the critical nature of this real world application as it relates to their learning in the classroom:

It was just a great experience being able to apply our knowledge in a real setting, and to be actually helping people at the same time. I just think it was great. It was a very positive experience for me, applying what you learn in the classroom in the ‘real world’ setting.

We were taught positive reinforcement in the classroom, and it made me realize that there were probably a lot of things that we learned while in the classroom, but it was having the opportunity to practice the knowledge, and that was really rewarding, it made me feel very confident. So it made me realize how much I had really learned in the classroom, and that I had to put it to use.

These qualitative findings are consistent with the service learning literature. In a compilation of service learning efficacy research outcomes, Eyler, et al., (2000) confirm that
Clustered Comparison 4: Attitude Toward Peers, Faculty, and Reflection in Service Learning

Quantitative Finding #2: Students in CSD, OT, TR and related human service disciplines acknowledge that peers and faculty played an important role in their learning and reflective discussion with peers and faculty is critical to this learning. The improvement in mean scores from pre to post-test indicate that in the beginning of the experience, students did not anticipate their peers or faculty as being integral members in their learning, however, at the conclusion of the experience students acknowledged the critical role their peers and faculty played in the overall experience. During pre-testing phase, students did not see the importance of reflective discussion with peers and faculty in relation to their learning but at post-testing phase, students acknowledged the value of this reflection. The role of faculty and reflection in this finding is consistent with the service learning literature. In a compilation of service learning efficacy research outcomes, Eyler, et al., (2000) share studies that show that students engaged in service learning experiences report stronger faculty relationships than those who are not involved in service learning. They also report studies showing that written and discussion-based reflection has an impact on student learning outcomes.

Qualitative Theme #3: Qualitative results are consistent with this quantitative finding as one critical theme emerged suggesting that the service learning experience contributed to students’ interpersonal development and improved ability to work with others. This finding supports the quantitative finding above that shows that students value the role that their peers and played in this experience. The experience required them to work with peers from different disciplines and consequently, this led to interpersonal development. Improvements in communication skills were observed across disciplines. Students who were naturally “shy” were required to become more out-going. Students who generally took control were required at times to take a back seat and let others step up. Speaking in front of large groups and reporting in “team supervision meetings” fostered further interpersonal gains. One student’s comment illustrates this finding:
At the beginning, I experienced a fear of the unknown. I had never worked with people who had brain injuries, so I didn’t know what to expect. Just getting to know people… I tend to be shy at meeting people, so starting up conversations was intimidating to me, and one of my fears was would they really want to talk to me. I struggled with the concept that I was the one in control, that I was the leader.

An interesting finding shows that students learned from peers within and outside of their own discipline. One student acknowledged the importance of peer support within her own discipline: “My peers were fabulous and I loved working with them. It was a learning experience that we took together, and when one of us needed assistance, there was always there to help out. We were all completely comfortable with each other.” Because students from different disciplines were often co-leading groups together, the need for clear communication across disciplines became critical to the success of the group. Students could no longer think only from their discipline’s perspective, rather students were challenged to see the varied perspectives of their peers in other disciplines. Students commented on how beneficial it was to learn the different approaches, strategies, and techniques of their peers from different disciplines. A CSD student comments on her ability to see and learn from perspectives different from her own:

I learned from the OT’s who I worked with at SteppingStones. I had never worked with OT’s before….we co-led the groups and I never thought from an OT perspective, more obviously from speech. I didn’t learn anything concrete, but I heard them talk about strategies, and the assessment they had to do (COPM). They talked about what they were going to do in group, like fabric tie-in, and it was to help with fine motor skills, and I never thought about that before.

An OT student offers reciprocal thoughts about the impact CSD students had on her learning:

I learned a lot from the other OT students and the speech students. They [speech students] brought a whole other level into the learning process just from their view…how they view traumatic brain injury and how they view the whole speech aspect.

A TR student talks about the benefits of her working relationship with an OT peer: “…the OT that I co-led group with, she was really very confident in what she was doing. I found that her positive energy helped me also, I felt like we were a good team.” When asked whether she learned from other disciplines, an OT student who co-led a group with a CSD student noted, “Definitely. We had different roles; we kind of complimented each other because we were coming from different backgrounds.”
Peer groups were additionally discussed in terms of undergraduate and graduate students. While the majority of students engaged in this experience were undergraduates (76.2%), a smaller cohort of graduate students (23.3%) participated as well. Undergraduate students acknowledged their “novice” status as compared to the “seasoned” status of their graduate peers who often held part-time jobs in the field while conducting their studies. Undergraduates tended to look to their graduate peers as leaders and learned discipline specific skills from them throughout the experience. One CSD undergraduate noted,

…I learned from the speech people that I interacted with. The speech people that I interacted with were all graduate students. I was the only undergraduate, and they seemed to know more than I did. One girl [CSD graduate student] had a one-on-one with a man that had speech problems, and she was working with him to clear his yes and no’s, to make them more clear. It was her techniques that I found new and very interesting.

The multidisciplinary approach in this service learning experience modeled the ideal “team concept.” While this multidisciplinary work produced initial angst among students (undergraduates in particular), a genuine respect for the varied disciplines resulted. Students used each other for support, experienced different discipline perspectives, and traded techniques and strategies. One student’s comment succinctly summarizes this outcome: “It was beneficial interacting with the different disciplines. We bounced ideas off of one another. Sharing ideas was really beneficial between disciplines.”

In addition to acknowledging the value of peers in their learning, students indicated the critical role of faculty and SteppingStones staff in their development. One student notes, “I think probably the most rewarding thing is just being able to work with the faculty members and staff that was there. They’re amazing people being able to work with the members.” Another student discusses how she used her faculty supervisor as a resource: “She is a really good resource. I worked with somebody with aphasia and she was just available to bounce ideas off of which was really helpful.”

While peer and faculty involvement proved significant in students’ learning, reflective discussion with peers and faculty was critical in this learning. When asked to discuss the connection of her community learning to the content of the course, one student commented:
Another student articulates the benefit of classroom debriefing to her learning. She additionally acknowledges the importance of peer support in this process:

We were kind of thrown in there, but we had a support system. There was a bunch of us that went there as a group…we were able to ask questions and everyone was very helpful, whether other TR interns or OT interns or just a member or staff. And then coming back to class and being able to talk about it and prepare you for it, was really a big help.

Another student talks about the role group reflection played in her ability to grasp discipline specific treatment planning competencies:

I think what we talked about in class definitely helped me in the community especially with the treatment planning and the whole process of implementation. We talked about it a lot in class and I think that really helped me out a lot in the community.

These qualitative findings are consistent with service learning literature that suggests that written and discussion based reflection has an impact on student learning outcomes (Eyler, et al., 2000).

Stand-Alone Item: Desire to Volunteer or Participate in Community After Course

Because this specific survey question, “I probably won’t volunteer or participate in the community after this course,” was such an important variable to the researcher as it underscored a critical outcome of service learning, it was quantitatively examined in isolation from the students’ overall attitude toward community involvement as identified in clustered comparison #2 (see below).

Quantitative Finding #3: Students in CSD, OT, TR and related human service disciplines indicate that they would be more likely to volunteer or participate in the community after their course. Because the survey question was negatively phrased: “I won’t volunteer or participate in the community after this course,” the mean scores were expected to go down. The decrease in mean scores from pre to post-test indicate that in the beginning of the experience, students agreed with this statement and did not see themselves as likely to volunteer or participate in the
community after the course, however, at the conclusion of the experience students disagreed with this statement and reported that they were more likely to volunteer in the community after their course. This finding is consistent with service learning literature. In a compilation of service learning efficacy research outcomes, Eyler, et al., (2000) share studies that suggest that service learning has a positive effect on commitment to service. The authors share additional studies that suggest that volunteer service in college is associated with involvement in community service after graduation.

**Qualitative Theme #4:** Qualitative results are consistent with this quantitative finding as one critical theme emerged suggesting that the service learning experience contributed to students’ personal development and efficacy. While this finding does not appear directly connected to students’ increased desire to volunteer after the course, the researcher observed that students’ increased personal efficacy led to the realization that they did have something positive to offer the community and thus their desire to volunteer became stronger. Without this improved sense of personal efficacy, students were not able to see themselves as contributing forces in the community. This service experience allowed them to see that what they have to offer is valuable and they can be contributing members in the community. For example, one student talks about her initial sense of “helplessness” and apprehension but shows how her personal development over the course of the semester allowed her to see herself as a valuable contributor to the SteppingStones community:

…I had some fears that maybe I wasn’t doing some things right. When some of the members were saying things like, ‘I can’t do that anymore,’ I felt a little helpless and that is when I noticed my lack of experience. Helping members adapt to certain equipment, or go about things in a different way, I was apprehensive, because I felt as if I didn’t know what I was talking about, and that was hard for me. But then I realized that with practice and experience I would get better…I actually was considering staying with the Lights, Camera, Action group for the summer, and I was going to volunteer for the rest of the week once I figured out what my permanent job was going to be.

Another student discusses her desire to volunteer with SteppingStones during the summer months. She additionally contemplates future community participation as an advocate:

I am going to volunteer at SteppingStones in May. At the end of May there is a 5-K race, and I will volunteer my services at that event. I have thought about doing other volunteer
work with SteppingStones now that I have worked there. If there is ever a chance for me to be an advocate, I would, because I feel better prepared to do so.

Clustered Comparison 2: Attitude Toward Community Involvement

An unexpected outcome related to this clustered comparison suggests that students’ overall attitude toward community involvement did not significantly change as a result of the service learning experience. This result is inconsistent with the quantitative and qualitative findings above and the cited service learning literature. Because the stand-alone item was such a critical question for the researcher, it was justified to examine it as its own variable. However, it is important to note that changes in students’ overall attitude toward community involvement did not prove significant from a quantitative perspective. Perhaps students do not fully understand the role that they play in meeting the needs of community partners and/or do not recognize how their interactions with the community can lead to reciprocal learning. This finding warrants further examination.

Clustered Comparison 3: Value of Service Learning as it Impacts Career Development

Another unexpected quantitative outcome suggests that students’ did not view the service learning experience as being valuable for their career development. This result is inconsistent with qualitative finding #5 below and the cited service learning literature related to the impact of service learning on career development (Eyler, et al., 2000). Perhaps the survey questions comprising this clustered comparison did not adequately represent the concepts.

Qualitative Theme #5 Qualitative results are inconsistent with this quantitative finding as one critical theme emerged suggesting that the service learning experience did, in fact, contribute to students’ career development. The characterization of this theme often came in the form of clarification about students’ abilities to work with adults or in a community-based setting. While a majority of students saw themselves working with children, this experience opened their eyes to the possibilities of working with adults. One student notes, “This experience has let me see that I really want to work with adults…this was the best thing that could have happened.” Another student discusses her realization that she can work with adults:

I don’t want to leave SteppingStones, I want to be there all summer. I have always wanted to work with children, and I think that I will continue wanting to work with kids,
but an awareness is now present in me, as well as a confidence to work with the adult population.

Another student discusses what she learned about herself as a result of this service course:

I learned that I can interact with adults, pretty much as easily as with kids. I wasn’t sure how to go about that change, but I mean a lot of them are just like normal people; it is just like interacting with an everyday person the street.

One student admits to some continued confusion about her career path as she responds to a question about where she will be in her career, but she seems to acknowledge the impact this course has had on her in terms of opening new avenues for this career direction:

Where do I see myself in my career? I have no clue. But it’s definitely something I’d like to do, I think the non-profit communities are very helpful, especially in the post-rehabilitative area, and I would definitely do something like this, whether it’s traumatic brain injury or any kind of disorder.

An OT student articulates how this service experience allowed her to realize that OT’s can work in community-based settings:

I learned that OT’s were part of a community-based program like this. I had never really known that before; that they could work in that kind of setting and I learned a lot about my own likes and dislikes and I am now considering going into community practice.

A CSD graduate student uses this service learning experience to validate her career aspirations related to population and setting:

My whole life I have wanted to work with children in speech therapy and I’ve been kind of on the line whether I want to work with children or adults in grad school. SteppingStones has absolutely confirmed my desire to work with adults and I even…this is kind of a stretch, but someday I would really love to create another SteppingStones-like program somewhere else. I would love to do it.

Qualitative Theme #5: Students in CSD, OT, TR, and related human service disciplines noted that the nature of the service-learning course impacted their learning. While some students were enrolled in formal service learning courses that had explicit learning objectives related to civic engagement, had built-in structured opportunities for verbal and written reflection, and met on a regular and consistent basis, other students were enrolled in practicum or voluntary elective courses that did not formally meet in a classroom environment. These students worked more independently of the classroom, however there was still a connection to faculty. These students
observed the benefits acquired by students from the more formal courses and indicated a desire to have a similar, more formal classroom experience in order to assist their learning. One student who was conducting an elective practicum experience independent of a classroom setting noted the anxiety associated with this perceived difference:

I feel as if the OT’s had an entire class that went along with it, and every week they came in and spoke about the class and what they were learning. Any my preparation was on the job training. More classroom experience relating to these specific topics would have been helpful. I felt like the OT’s knew more than me, and at times I didn’t like that.

Another student conducting an independent practicum talked about the importance of receiving faculty feedback, even though it happened in a less formal way than in the typical classroom experience:

We really didn’t have a group meeting. The only thing I can think of is that our faculty supervisor would come and supervise us every other week and she’d supervise our groups and give us a write-up about what she saw and her observations and feedback that way, so it was kind of written feedback.

Students appear to value the more structured service-learning course that has built-in supports for fostering academic learning and principles of civic engagement. This finding is consistent with the service learning literature that points to the essential characteristics of service learning courses (National Service Learning Clearinghouse, 2004). Active learning means active engagement with course content, not just being active. The benefits of service learning pedagogy are most notably observed in courses that have explicit civic engagement learning objectives and classroom activities that are a reflection of these objectives. In a formal classroom environment, students are more apt to make the link between course content and their work in the community. Faculty members are able to introduce complex situations in the classroom and model how to approach these problems in the real world setting. The inherent faculty and peer support of a formal classroom environment offers students a safety net as they venture out into high stakes situations in the community. This finding supports service learning “best practices” outlined in the Wingspread Principles (1989).
References:


