



University of New  
Hampshire

A Reciprocal Relationship

SteppingStones



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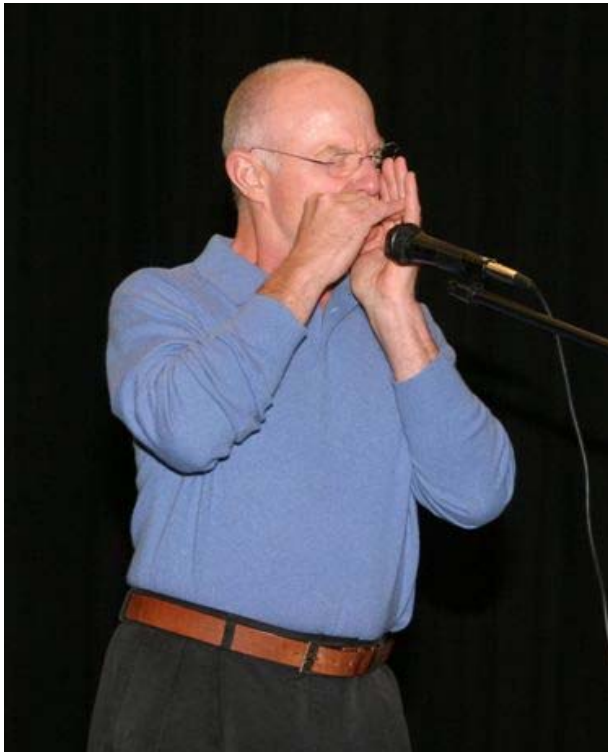
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# Mission and Vision

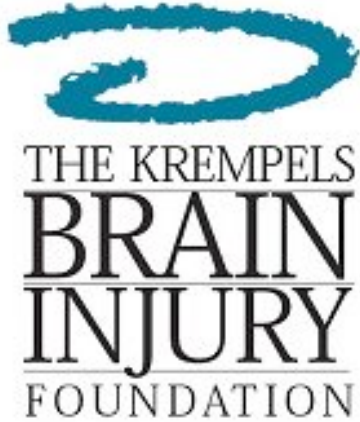
- Mission: “dedicated to improving the lives of people living with brain injury from trauma, tumor or stroke.”
- “You are not who you were, be who you are.”



# Needs Assessment



- NH needs assessment found little support in the New England region.
- TKBIF needs assessment found:
  - Lack of recreation
  - Impaired social relations
  - Difficulties with friendship
  - Depression/Anxiety
  - Decreased substantial gainful activities –
    - employment, education, & volunteerism



# SteppingStones

Established in 2000, designed to meet long term needs of persons living with ABI and to integrate them into their community and society.

SS has received local, state, regional, and national recognition for its innovative, empowerment, holistic, and community partnership model.



# The Beginnings

- Reciprocal relationship between SS & the University of New Hampshire
- Began in 2000 with OT department
- 6 Student interns & 1 faculty member



# The Relationship Now

- UNH departments:
  - Occupational Therapy
  - Communication Sciences & Disorders
  - Recreation Management & Policy--Therapeutic Recreation Option
  - Social Work
  - Whittemore College of Business
- Fall 2007: 40 student interns
- Along with community volunteers, they help provide 8600 in-kind volunteer hours

# Anecdotal Student Benefits



- Client centered model
- Multidisciplinary approach
- Practice assessment tools
- Develop professional documentation skills
- Become comfortable with addressing emotions
- Role reversal – learning from members



# Anecdotal Student Benefits



- Facilitation of group activities
- Flexibility -expecting the unexpected
- Develop adaptations to meet individual needs
- Insight into QOL following traditional rehab services
- Learn to establish professional boundaries



# What Will Be Examined?

## Member Outcomes

- Does involvement in SS result in increased community participation?
- Does involvement in SS provide meaning to everyday activities?
- Does involvement in SS impact social communication?
- Does involvement in SS increase overall quality of life?

# What Will Be Examined?

## Student Outcomes



- What impact does community based learning (SteppingStones) have on students' learning, view of service, choice of career, and perspective on working with diverse communities?

# Member Outcomes



# Participant Demographics

- Age: Based on NFI divisions-
  - 17-24 years 12.2% (5)
  - 25-34 years 12.2% (5)
  - 35-44 years 19.5% (8)
  - 45+ years 48.8% (20)
- Gender:
  - 61% (n=25) male
  - 39% (n=16) female
- Diagnosis:
  - CVA 29.3 (12)
  - TBI 46.3 (19)
  - Other 12.2 (5)



# Participant Description

- On average the 27 participants suffered their injury 8 years 9 months ago. The range of years post injury was 9 months to 45 years with a standard deviation of 9.19 years.



# Participant Description

- Finally, on average the participants have been active at SteppingStones on average 22 months or almost 2 years. The range of program participation was .5 year to 6 years, with a standard deviation of 1 year 7 months.

# Quality of Communication Life Scale Index (QCLS)

- Examines subject's communication ability and the impact it has on their QOL.
- The best score = 5, the poorest score = 1
- No significant differences noted between age, gender, or diagnosis, and mean scores on the QCLS.

	Mean (SD)	p-value
<b><u>Age</u></b>		
17-24	4.3 (.50)	p = .12 ns
25-34	3.4 (.42)	
35-44	4.5 (.52)	
45 +	4.0 (.66)	
<b><u>Gender</u></b>		
Male	4.1 (.67)	p = .82 ns
Female	4.1 (.49)	
<b><u>DX</u></b>		
CVA	4.0 (.67)	p = .69 ns
TBI	4.1 (.64)	
Other	4.3 (.45)	

# Enhanced Quality of Life

- The Wisconsin Quality of Life Inventory (WIQ) was selected secondary to its validity and reliability with survivors of brain injury. The subsections of this tool measure **health/ wellness** and **friendship/support** and the total score capture **quality of life**.

*Collins, Lanham & Sigford (2000).*

# Enhanced Quality of Life

- The WIQ 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. This instrument is theoretically based in the work of Abram Maslow (1968) and is considered a Needs Based Quality of Life Scale.

*Collins, Lanham & Sigford (2000).*

# Enhanced Quality of Life

The following constructs are measured in this tool producing both sub-scores and a total score.

<b>Construct Area</b>	<b>Score Range</b>
Physiological Needs	0-48 points
Safety and Security Needs	0-48 points
Love and Belonging Needs	0-48 points
Self-Esteem Needs	0-48 points
Self-Actualization Needs	0-48 points
Total QOL Score	0-240 points

# Participant QOL Scores

<b>Construct</b>	<b>Mean Score</b>	<b>Range</b>	<b>Standard Deviation</b>
Physiological	34	24-37	6.39
Safety and Security	34	23-41	4.8
Love and Belonging	39	25-47	6.1
Self-Esteem	36	20-47	7.9
Self-Actualization	37	23-47	5.5
Total Score	180.62	126-226	24.97

# Community Integration Questionnaire

The community integration questionnaire (CIQ) was used to measure how active members are in the community and if they are active with other people or if they are developing **friendships and support**. The CIQ is a valid and reliable tool and is well researched with the population of brain injury survivors.

*Willer et al., 1993*

# Community Integration Questionnaire

- The CIQ is a 15 item questionnaire that measures extent of participant's community integration. The tool produces three sub-scale scores (home integration, social integration, and productive integration) and a total integration score.

*Willer et al., 1993*

## CIQ

**The CIQ produces three subscales and a total score in the following areas**

<b>Subscales and Total</b>	<b>Range</b>
Home Integration	0-10
Social Integration	0-12
Productive Integration	0-7
Total CIQ Score	0-29

# Participant CIQ Scores

Area	Mean	Range	Standard Deviation
Home Integration	5.1	0-10	3.4
Social Integration	8.2	4-11	1.6
Productive Integration	3.4	1-6	1.3
Total CIQ Score	16.5	10-25	4.1

# Neuro-behavioral Functioning Inventory (NFI)-Mean (SD) Differences among Age

	<b>17-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45+</b>	<b>p-value</b>
<b>Depression</b>	34.2(4.8)	41.6(11.1)	27.7(6.5)	26.4(9.9)	<b>p&lt;.01*</b>
<b>Somatic</b>	21.8(6.3)	28.0(6.2)	20.1(5.4)	20.7(6.9)	p=.15ns
<b>Memory/Attention</b>	51.0(8.0)	56.4(9.7)	45.5(12.9)	45.2(13.5)	p=.29ns
<b>Communication</b>	26.6(5.2)	32.2(4.1)	26.8(11.0)	25.7(7.4)	p=.43ns
<b>Aggression</b>	20.8(10.5)	21.6(6.9)	14.8(4.5)	14.3(4.5)	<b>p&lt;.03*</b>
<b>Motor</b>	18.4(4.5)	25.6(2.6)	21.8(8.5)	20.3(7.3)	p=.37ns

**\*Indicates a significant difference between groups**

# Relationship between Communication, Quality of Life, and Community Integration

- Mean QCLS correlates with mean scores on overall QOL
  - [ **$r = + .45$ ,  $n = 27$ ,  $p < .05$ ; two tailed**]
- Significant relationship between QOL and Community Integration
  - [ **$r = + .40$ ,  $n = 27$ ,  $p < .05$ ; two tailed**]
- No relationship between Communication and Community Integration was noted on preliminary examination.

# Summary of Baseline Data

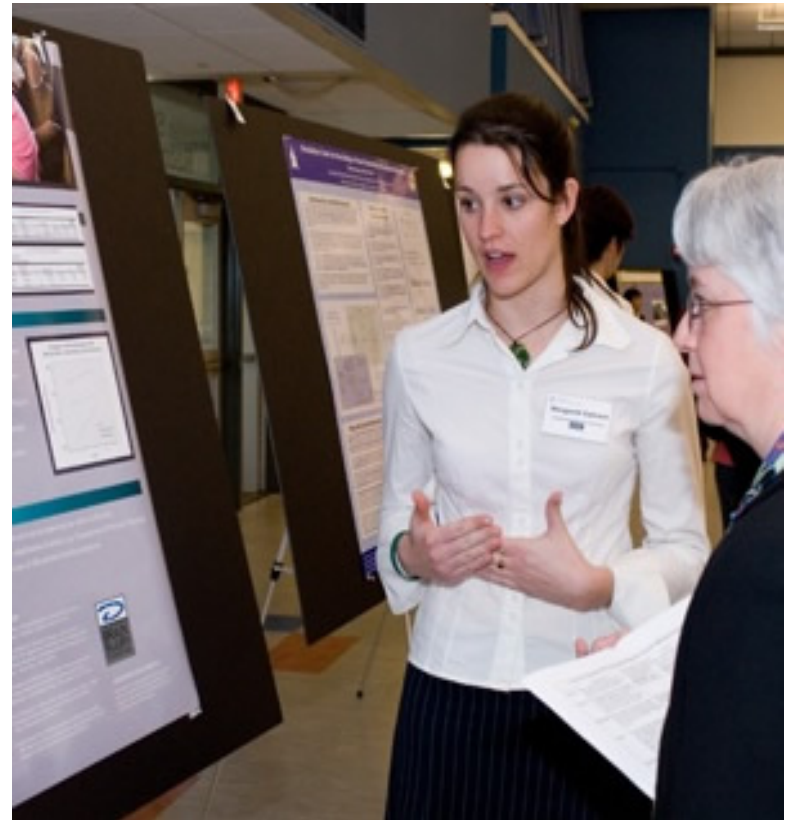
- It appears that SteppingStones could be a contributing factor in enhancing friendships and supports for the members of the program.
- It appears that SteppingStones could also be a contributing factor in enhancing members' level of social integration.
- It also appears that SteppingStones could be a contributing factor in enhancing the quality of life for member's of the program.

# Summary of Baseline Data

- It appears that for individuals attending SteppingStones the sense of belonging and being loved contributes most to the perception of quality of life.
- It also appears that SteppingStones enhances its member's social integration skills and opportunities.
- These two findings are critically important as the literature ranks social isolation and decreased social networks as a causative factor of depression in individuals with brain injury (Bezner & Hunter, 2001; Borgaro & Prigantano 2002; Bushnik, Hanks, Kreutzer & Rosenthal, 2003).

# Scheduled Research Projects

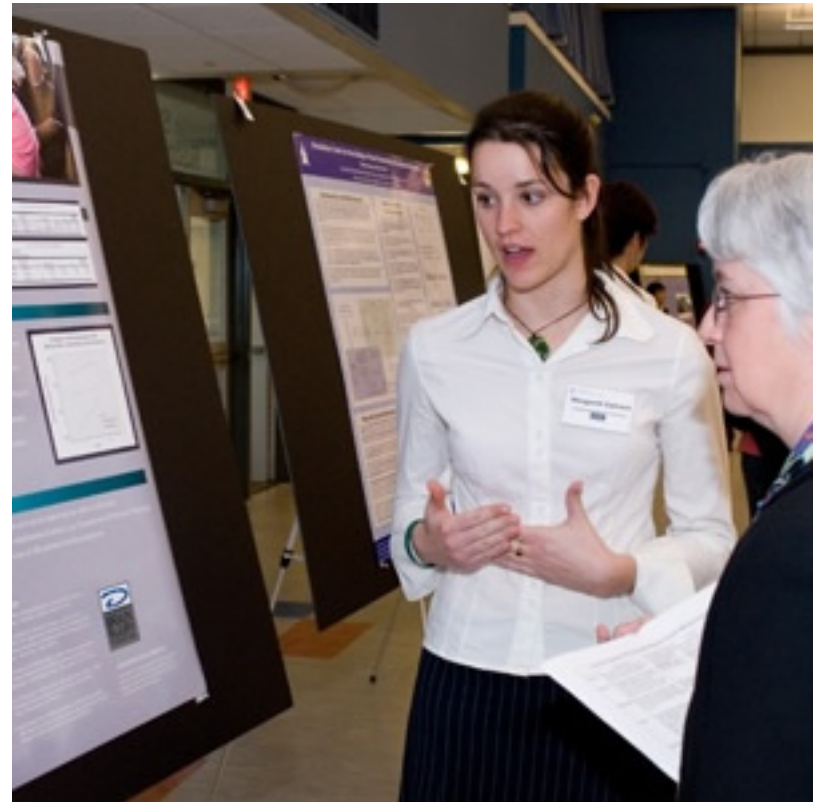
- Report of QCLS vs. QOL; ASHA, Boston, MA, 2007\*
- Qualitative report of findings; ASHA, Boston, MA, 2007\*
- Overall report of findings; PNSLHA, Pittsburgh, PN, 2008



\*Indicates that presentation is in conjunction with UNH graduate student

# Scheduled Research Projects

- Involving Students in Understanding Population Needs- AOTA, Long Beach, California April 2008\*
- Outcomes of Community Based Programming - AOTA, Long Beach, California April 2008\*
- Outcomes of Service Learning Pedagogy--NETRA, Tyngsboro, MA, November 2006
- Outcomes of Service Learning Pedagogy--ATRA, September 2008, location TBA



\*Indicates that presentation is in conjunction with UNH graduate student

# Publication Predictions

(Dates articles will be submitted for review)

- Impact of Communication on QOL
  - JSLP; Fall 2007
- Cognitive and Emotional states (NFI) and their impact on QOL
  - Brain Injury; Spring 2008
- Impact of Service Learning on College Students in Allied Health Professions
  - Scholé; Summer 2008
- Response Shift- CIQ vs. QOL
  - JOT; Spring 2008

# Student Learning Section of VPR Grant

- Patti Craig, Clinical Assistant Professor,  
Dept of Recreation Management & Policy
- “From the Classroom to the Community:  
Assessing Outcomes of Service-Learning  
on College Students in Health  
Professions”

# Purpose of Research Study

- Systematically assess outcomes to support anecdotal evidence of service-learning courses
  - Identify curricular strengths & areas of improvement
  - Gather evidence to support future program planning
- Purpose: Seek assessment data about students' learning in a service-learning experience

# Research Question

- What impact does community-based learning have on college students' perspective on learning, view of service, choice of career and perspective on working with diverse communities?

# Service-Learning Pedagogy

“There is something uniquely powerful about the combination of service and learning. There is something fundamentally more dynamic in the integration of the two than in either alone”

(Kendall & Associates, 1990).

# Service-Learning Pedagogy



- Service learning combines service objectives with learning objectives with the intent that the activity change both the recipient & the provider of service...

# Service-Learning Pedagogy

- “...this is accomplished by combining service tasks with structured opportunities that link the task to self-reflection, self-discovery, & the acquisition & comprehension of values, skills, & knowledge content”

(National Service Learning Clearinghouse, 2004)

# Essential Characteristics of Service Learning

(National Service Learning Clearinghouse, 2004)

- Links to academic content & standards
- Involves students in service to meet real community needs that have been defined by communities themselves.
- Is reciprocal in nature
- Provides structured time for students to reflect by thinking, discussing and/or writing about their service experience

# Outcomes of Service-Learning

(Gelmon, Holland, Driscoll, Spring,  
& Kerrigan, 2001)

- **Affective:**
  - Changes in attitudes towards community issues, populations served, community service, & personal values
- **Cognitive:**
  - Theoretical knowledge & critical thinking
  - Problem-solving skills
  - Decision-making skills

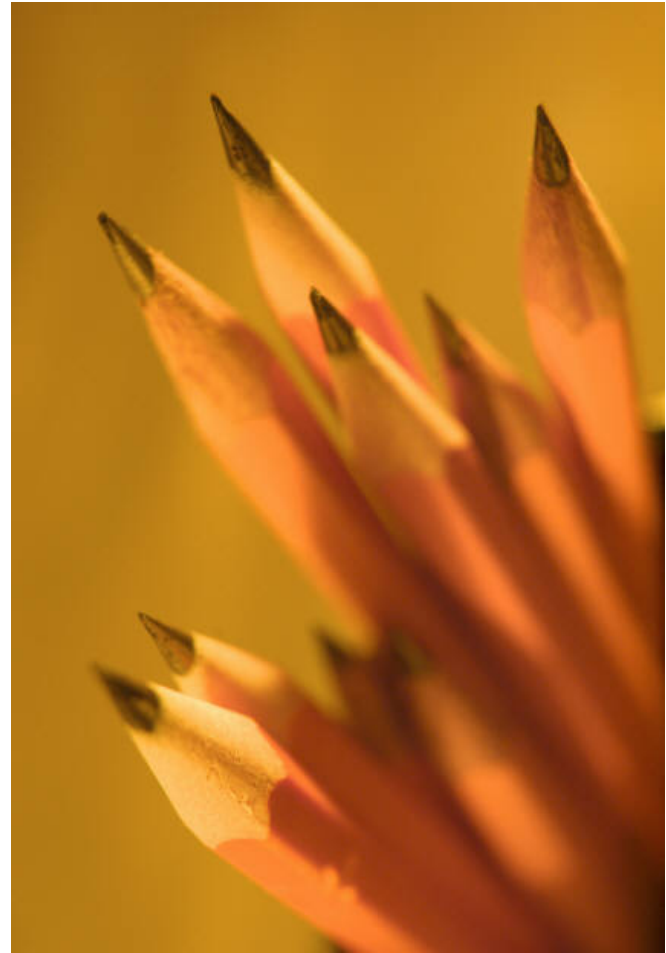
# Organization of Study



- Mixed methods research design
  - Quantitative Phase: Surveys
  - Qualitative Phase: Semi-structured interviews

# Organization of Study

- Pilot Study: Surveyed two intern cohorts during fall 2005 & spring 2006 semesters (surveys only; no qualitative interviews)
- Used results to inform qualitative interview guide for VPR study

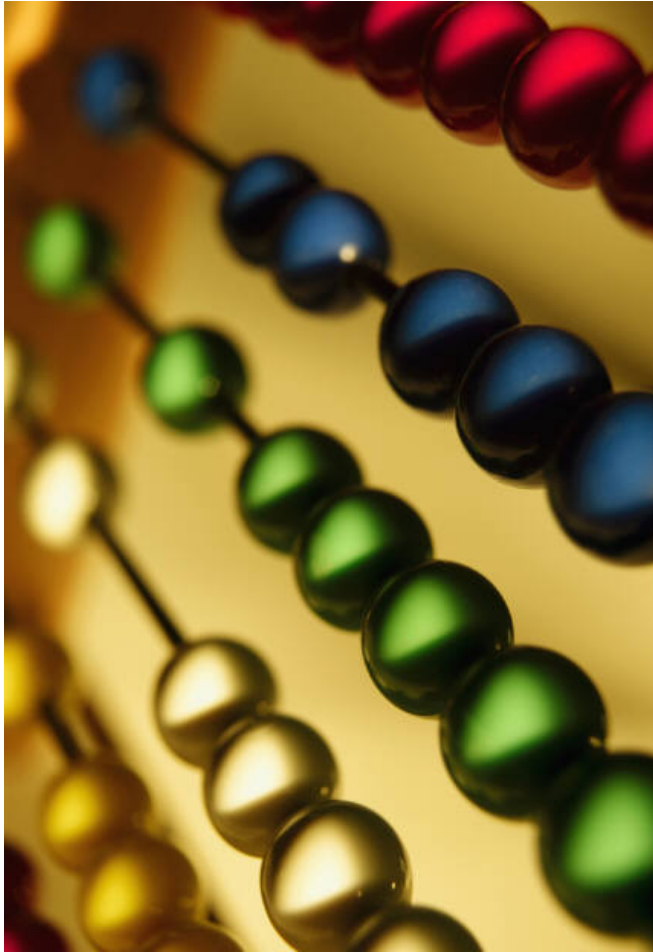


# Organization of Study



- VPR Study:  
Surveyed two intern cohorts during fall 2006 & spring 2007 semesters AND conducted qualitative interviews with 11 interns from these two cohorts

# Organization of Study



- Pooled survey data from pilot study & VPR study (N=133)
- Analyzed quantitative data using SPSS
- Interview results analyzed & thematically coded by two of three researchers

# Quantitative Measure: Procedures for Community-Based Learning Survey

- Modified from Campus Compact Service-Learning Survey (Gelmon, Holland, Driscoll, Spring, & Kerrigan, 2001)
- Voluntary & anonymous
- Facilitated by trained graduate students from university and/or trained volunteer from service site



## Quantitative Measure: Procedures for Community-Based Learning Survey

- Survey instrument consisted of:
  - 25 questions
  - 5-point Likert Scale response
  - Five Sections: demographics, perspective about course, attitude toward community involvement, influence of service on choice of major/profession, personal reflections on experience

# Quantitative Measure: Procedures for Community-Based Learning Survey

- Data collected from four separate student cohort groups from Communication Science & Disorders (CSD), Occupational Therapy (OT), Therapeutic Recreation (TR), Social Work (SW), & Psychology (Psych) during fall 2005, spring 2006, fall 2006, & spring 2007 semesters
- Data was pooled and analyzed descriptively and inferentially in aggregate (N=133)

# Quantitative Measure: Procedures for Community-Based Learning Survey

- Pre-test: given to participants during 1st week of participation in program
  - week 3 of academic semester
- Post-test: given to participants during last week of participation in program
  - week 15 of academic semester

# Quantitative Measure: Data Analysis

- Descriptive Stats:  
Frequencies
- Wilcoxon  
nonparametric  
paired tests (signed  
ranks test) on four  
pre-selected  
clustered  
comparisons and  
one stand alone  
item



## Quantitative Results: Demographics: Table 1

Variable	Frequency (n)	%
<b>Age:</b>		
Under 25	112	84.2%
25-34	14	10.5%
Over 34	7	5.3%
<b>Gender:</b>		
Male	8	6%
Female	125	94%
<b>Class level:</b>		
Junior	15	11.3%
Senior	85	63.9%
Graduate Stud.	31	23.3%
Other	2	1.6%

# Quantitative Results: Demographics: Table 1

Variable	Frequency (n)	%
Major at University:		
CSD	36	27.1%
TR	22	16.5%
OT	70	52.6%
Other	5	3.8%
Job hrs/week:		
1-10 hrs/wk	34	25.6%
11-20 hrs/wk	47	35.3%
over 21 hrs/wk	30	22.5%
No job	18	13.5%

# Quantitative Data Analysis

- Preliminary examination of distribution of scores showed ceiling effect during pre-test (high pre-test scores), therefore researcher clustered survey questions dealing with attitudes and values AND
- Elected Wilcoxon nonparametric paired test (signed ranks test) on four sets of composite scores and one stand alone item
  - When using the Wilcoxon test, data should not be compromised by non-normal distribution (Morgan, Leech, Gloeckner, & Barrett, 2004).

# Quantitative Data Analysis

- Created four pre-selected cluster comparisons and one stand alone item (five total cluster comparisons)
- Developed composite scores for all clusters except stand alone item
- Creation of 5 cluster comparisons decreased risk of Type I error

## Quantitative Analysis: Four Pre-Selected Clustered Comparisons & One Stand Alone Item

1. Value of service learning to academic learning (understanding course content)
2. Attitude toward community involvement
3. Value of service learning as it impacts career development
4. Attitude toward peers, faculty, and reflection in service learning

Stand alone item: Question #15

“I probably won’t volunteer or participate in community after this course.”

## Quantitative Results: Wilcoxon Signed Ranks Test

Clustered Comparison	Mean Rank (raw scores)		Z stat	Asymp. Sig. (2-tailed)
	Pre	Post		
Value of service learning to academic learning	44.23	45.35	-3.195a	.001
Attitude toward peers, faculty, and reflection	42.77	46.44	-2.097a	.036
Stand alone item: I probably won't volunteer or participate in community after this course	23.67	19.00	-3.607b	.000

- a. Based on negative ranks
- b. Based on positive ranks

# Quantitative Results

- 3 out of 5 clustered comparisons proved significant ( $p < .05$  2-tailed).
- Differences did not occur due to sampling error
- Even with a noted ceiling effect of pre-test scores, participants mean ranks for 3 out of the 5 clusters increased at post-test.

# Quantitative Results

Students in CSD, OT, TR, & related human service disciplines (Social Work, Education, Psychology):

1. View a service learning experience as being valuable in their understanding of course content and academic learning.
2. Acknowledge that peers and faculty play an important role in their learning in a service learning course and reflective discussion with peers & faculty is critical to this learning.
3. Are more likely to volunteer or participate in the community after a service learning course.

# Quantitative Results

Students in CSD, OT, TR, & related human service disciplines (Social Work, Education, Psychology):

4. Did not view a service learning experience as being valuable for career development.
5. Attitudes toward community involvement did not significantly change as a result of a service learning course.

# Qualitative Measure: Procedures for Semi-Structured Interviews

- Modified from Campus Compact Interview Protocol (Gelmon, Holland, Driscoll, Spring, & Kerrigan, 2001)
- Convenience sample of participants
- Interviews conducted by researcher from TR discipline & two trained graduate students from university at conclusion of students' service learning experience
- Pseudonyms employed
- Interviews were audio-taped and transcribed
- Transcripts analyzed for categories, patterns, themes

# Qualitative Measure: Procedures for Semi-Structured Interviews

- Qualitative Sample:
  - Total of 11 participants
  - 7 undergraduates, 4 graduate students
  - CSD major: 5
  - OT major: 2
  - TR major: 4
- Researcher aimed for more representative sample but unable to obtain due to participant time constraints at end of semesters.

# Participant Profiles

Name	Major	Class Level	Nature of course	Semester
Christine	CSD	Undergraduate	Elective service learning course	Spring 2007
Sarah	CSD	Graduate	Practicum; independent of classroom	Spring 2007
Kim	TR	Undergraduate	Required service learning course	Spring 2007
Kelsey	TR	Undergraduate	Required service learning course	Spring 2007
Julie	OT	Graduate	Required service learning course	Fall 2006
Melissa	OT	Undergraduate	Required service learning course	Fall 2006
Amy	CSD	Graduate	Practicum; independent of classroom	Fall 2006
Alice	CSD	Graduate	Practicum; independent of classroom	Fall 2006
Beth	CSD	Undergraduate	Elective service learning course	Fall 2006
Lisa	TR	Undergraduate	Required service learning course	Fall 2006
Karen	TR	Undergraduate	Required service learning course	Fall 2006

# Qualitative Measure: Procedures for Semi-Structured Interviews

- Interview guide designed to gather data from students about:
  - The nature of their service-learning involvement
  - Their role in the course
  - Their understanding about linkages between course content & the community
  - The challenges of engaging in service-learning courses
  - Probes students' fears & concerns related to participation in community
  - Assesses the self-awareness that emerges as results of experience

# Qualitative Measure: Procedures for Data Analysis

Data analyzed through a three stage process proposed by Taylor & Bogdan (1984):

1. Identify concepts & develop themes
2. Code data & refine subject matter
3. Understand data in context in which it was collected

# Qualitative Measure: Procedures for Data Analysis

- Employed Creswell's (1998) primary verification procedures for credibility, trustworthiness, reliability, & validity:
  - Triangulation: results separately analyzed & thematically coded by two of three researchers (validity)
  - Peer Review: two researchers met to review initial categories and codes (external check; reliability)
  - Debriefing: two researchers debriefed the themes that each generated (external check; reliability)

# Qualitative Measure: Procedures for Data Analysis

- Coding involved two stages:
  1. Open coding search phase: “the process of breaking down, examining, comparing, conceptualizing, and categorizing data”  
(Strauss & Corbin, 1990, p. 61)
  2. Focused coding phase: examining limited set of codes & applying to larger amount of data

# Qualitative Results: Themes

- Findings derived from themes generated by the 11 participants
- Six themes were generated by noting regularities and salient categories that emerged from data (Patton, 1990).

# Qualitative Results: Six Themes Emerged

1. The service learning experience contributed to academic learning
2. Subjects were able to apply what they learned in classroom to the “real world”
3. The service learning experience contributed to interpersonal development & ability to work well with others
4. The service learning experience contributed to personal development and efficacy
5. The service learning experience contributed to career development
6. Nature of course characteristics and impact on learning

# Conclusions

- The following findings support the efficacy of service learning pedagogy:
  - Students in CSD, OT, TR, and related human service disciplines report that:
    - Service learning positively impacts their academic learning by helping them better understand course content, lectures, readings, and discipline specific competencies.
    - Service learning allows them to see the value of working alongside peers and faculty from their own and other disciplines and helps them recognize the critical nature of reflection with peers and faculty in this learning. This appeared to be a very strong theme in the qualitative data and future research examining the impact of multidisciplinary perspectives is warranted.
    - The nature of service learning courses has an impact on their learning. Students described the need for structured class time and debriefing experiences with peers and faculty. This is critical for faculty who are charged with developing service learning courses.

# Conclusions

- The following finding supports the efficacy of service learning pedagogy:
  - Students in CSD, OT, TR, and related human service disciplines acknowledge the impact service learning has on their career development. While this finding did not prove significant in the quantitative analysis, students were able to describe benefits of this experience in terms of where they saw themselves working in the future. They were able to identify preferences in population, age group, and service setting. While this experience may not have confirmed career path for all involved, it did allow students to see that other career directions exist. New career avenues opened up as a result of this experience.

# Conclusions

- The following finding supports the efficacy of service learning pedagogy, especially in relation to principles of civic engagement:
  - Students in CSD, OT, TR, and related human service disciplines report a desire to engage in the community as a volunteer after their course. While overall attitudes toward community involvement did not prove quantitatively significant, qualitative results showed that as a result of service experience, students saw themselves as being more capable of participating in the community as a volunteer after the experience. The increased personal efficacy experienced by students as a result of this experience led them to consider volunteering or advocating for persons with disabilities in the future. This is an important finding given higher education's recent call for increased outreach and civic engagement.

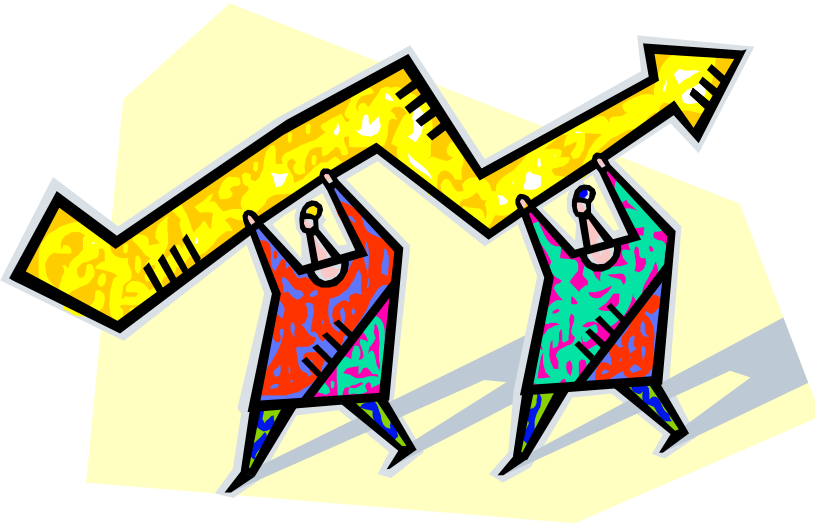
# Implications for Future Research

- Include additional qualitative data analyses such as classroom observations and focus groups with students to reveal significant change in their perceptions about their learning and development as a result of service-learning work.



# Implications for Future Research

- Include additional qualitative analyses of student course artifacts such as journals, blackboard discussion threads, formative & summative papers/assignments, end of semester written evaluations.



# Implications for Future Research

- Assess impact of service-learning on faculty, community partner, and university institution.



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