Background

* University Quality Enhancement Plan- Applied Learning

* Study selected as one of five pilot studies across the University

* Applied learning is heavily embedded in Nursing Education

* Use of service learning methodology for applied learning experiences.

* Need to examine and assess impact of applied (service learning) on specific course, program and University established learning outcomes.

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Study Purpose

* This study used a **standardized framework** to evaluate the **influence of applied and service-learning experiences** *before and after* participation in applied and service-learning activities as part of a community health nursing clinical course.

Study Design

Examined three measures using pre-post test design:
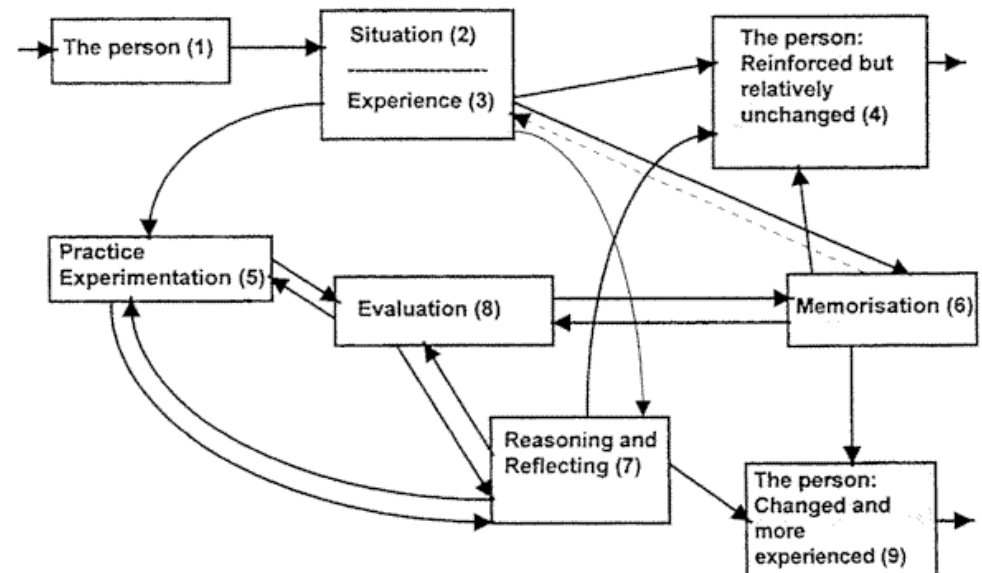
* Community Self Efficacy- Community Service Self-Efficacy Scale (CSSES) (10 items, Cronbach's= .90)

* Problem Solving- Problem Solving Inventory (PSI) (35 items, Cronbach's= .90)

* Critical Thinking- California Critical Thinking Skills Test (CCTST) (34 items, Cronbach's .78).

Theoretical Frameworks supporting the study design
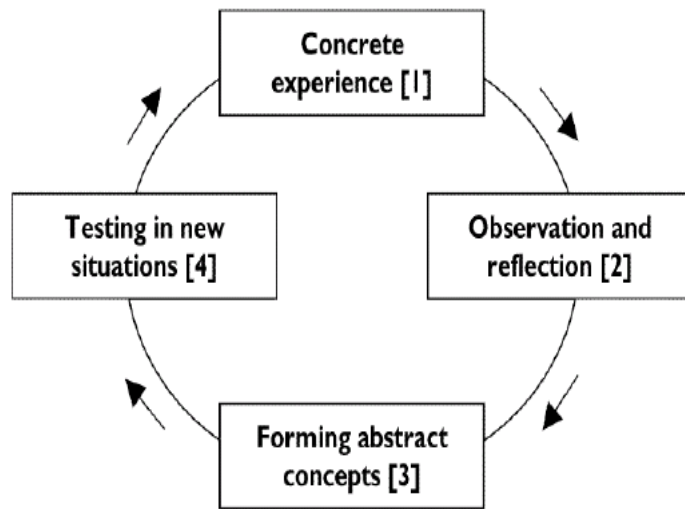
Kolb (1984)

Jarvis (1987, 1995)

Research Questions

* **Are there differences in pre and post test scores on critical thinking, problem-solving, and community service self-efficacy after students engage in concrete applied and service learning experiences?**

* **Does participation in applied and service-learning experiences, along with structured oral (post-conferences) and written (essays) student reflections, increase student critical thinking, problem-solving and community self-efficacy?**

* **Do demographic factors such as age, work experience and other community volunteer experience impact student scores on critical thinking, problem-solving and community self-efficacy?**
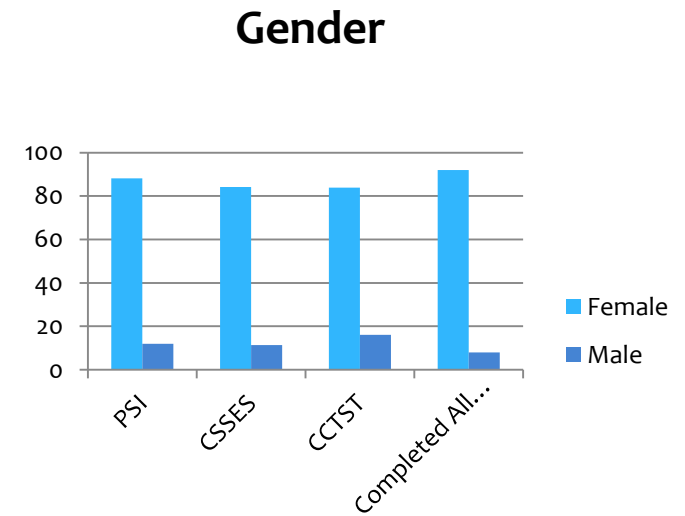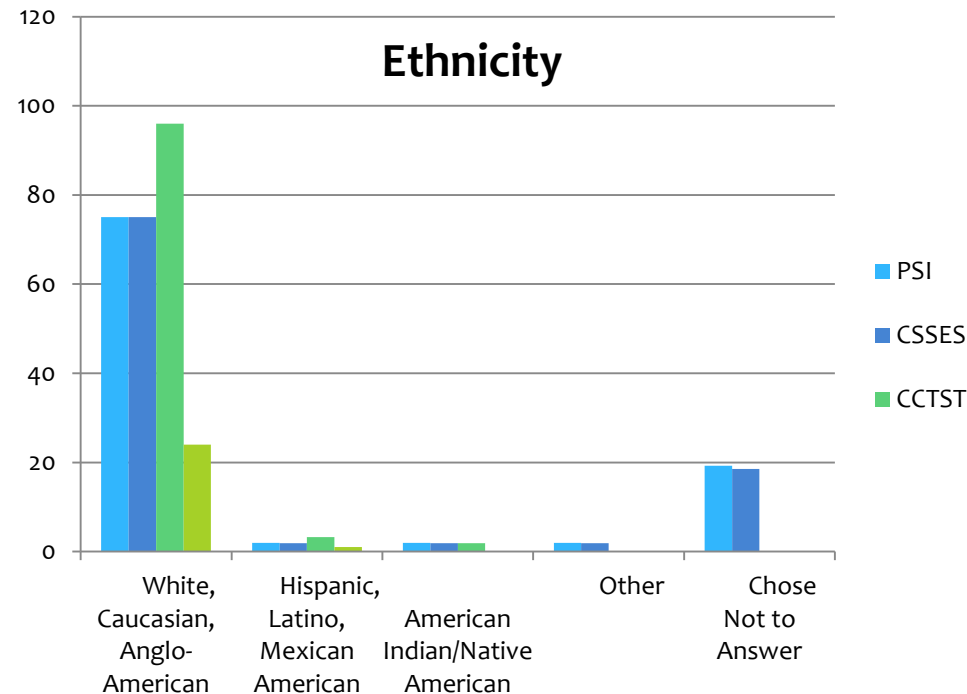
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Intervention

Community health nursing course :

* first semester seniors in an undergraduate nursing program
* 112 hours of applied learning clinical experiences
* 30 hours of didactic content

Specific service learning experiences at :

* a local free clinic for the uninsured
* local housing authority and
* teaching in an alternative school for children living in a residential facility who are under protection of the state social services agency and foster care system.

* **Other clinical placements include school health, public health and home health settings using a preceptor model.**
* **At the end of each clinical day, students participate in a 1.5 hour post-conference debriefing session.**

Study Sample Characteristics

	PSI (N=52)	CSSES (N=54)	CCTST (N=31	Completed All measures (N=25)
Age	22.62 (20-35)	23.02 (20-34)	23.00 (20-35)	22.0 (20-30)

Study Sample Characteristics

Work Status

- Completed All measures
- CCTST
- CSSES
- PSI

No
Yes

Type of Work

70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00

PSI | CSSES | CCTST | Completed All measures

Healthcare related
Non-healthcare related

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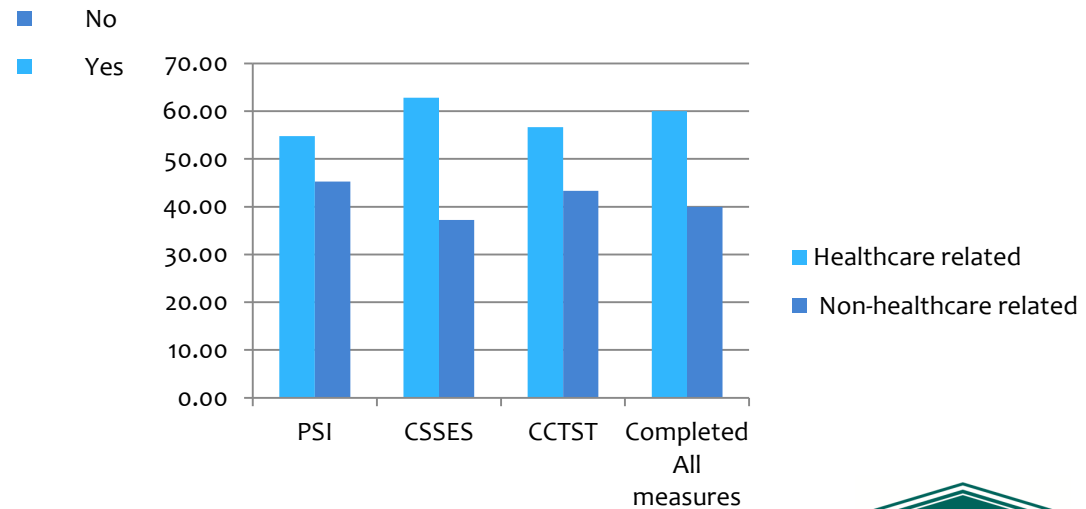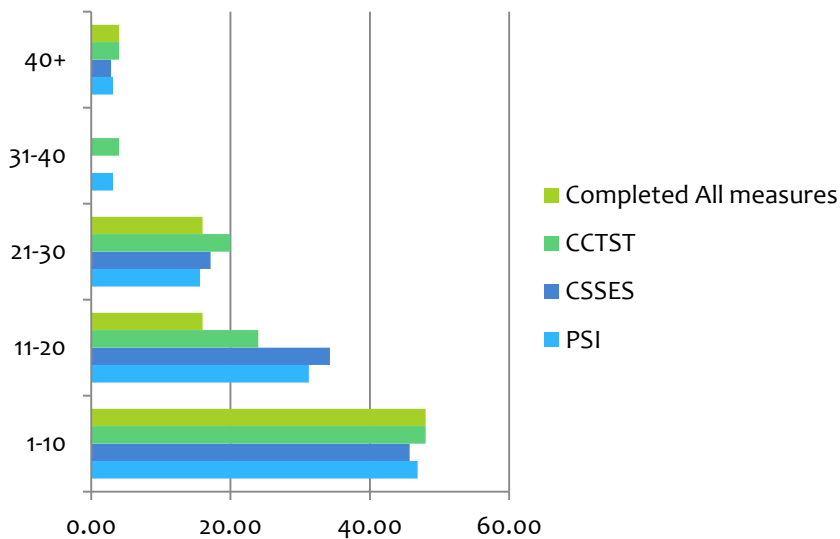
Study Sample Characteristics

Hours Volunteered per Month

Hours Worked per Week

Study Sample Characteristics

Education

| | Some college | Associate degree | Baccalaureate degree | Master's degree |

Categories: PSI, CSSES, CCTST, Completed All measures

Findings

	Pre Test		Post Test		t-test	*p*
	M (SD)	Range	M (SD)	Range		
PSI (N=52)	72.71(17.96)	32-110	73.08 (18.05)	35-117	.158	.88
CSSES (N= 54)	9.30 (.93)	6-10	9.31 (1.06)	4.9-10	.075	.941
CCTST (N=31)	76.87 (4.77)	67.8-86.0	68.43 (7.62)	52.4-81.8	6.91	< .05*
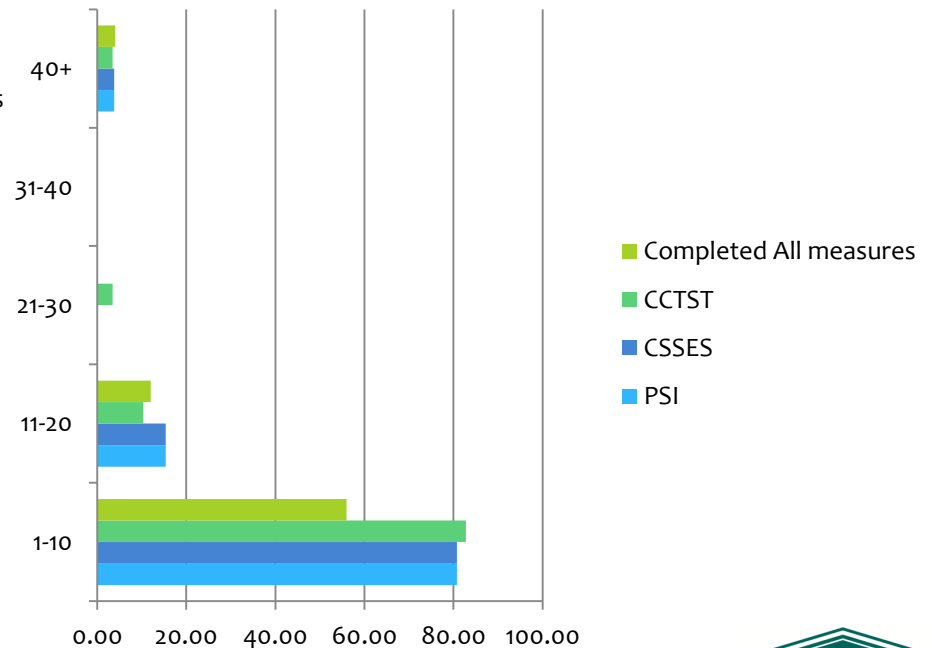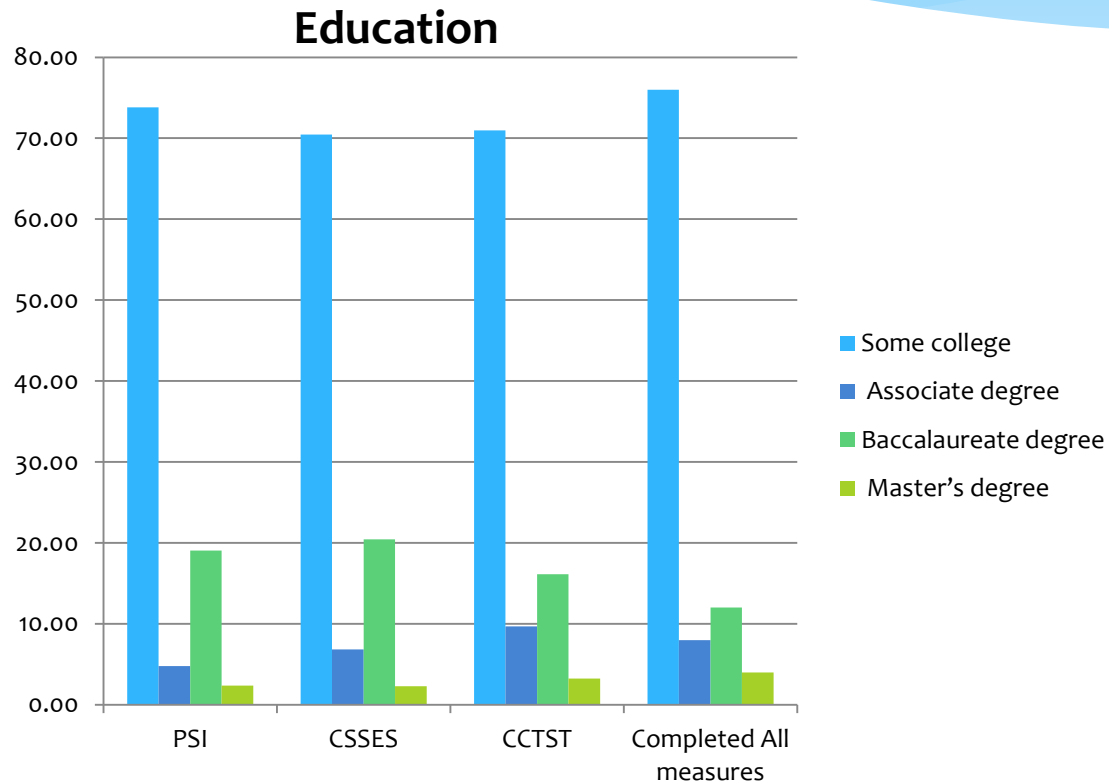
Table 1. Pre and Post Measure Scores

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Findings

	Pre Test			Post Test				
	Mean	SD	Range	Mean	SD	Range	t-test	p
Total	76.87	4.77	67.8-86.0	68.43	7.62	52.4-81.8	6.91	<.05*
Analysis	81.97	7.99	61.0-93.5	75.89	11.65	54.5-93.5	2.70	<.05*
Evaluation	75.93	6.76	63.1-91.8	69.05	7.55	54.9-83.6	4.43	<.05*
Inference	79.77	4.78	69.2-91.6	70.37	7.74	55.2-86.0	7.73	<.05*
Deductive Reasoning	75.67	5.87	66.2-89.6	68.97	6.88	55.8-84.4	7.08	<.05*
Inductive Reasoning	81.38	5.7	68.8-92.2	72.41	9.02	55.8-87.0	4.96	<.05*

Table 2. California Critical Thinking Test Pre and Post Scores (N=31)

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Findings

Table 3. *Problem Solving Inventory Pre and Post Scores (N=52)*

	Pre Test			Post Test			t-test	*P*
	Mean	SD	Range	Mean	SD	Range		
Total Score	72.71	17.96	32-110	73.08	18.05	35-117	.158	.88
Problem Solving Confidence Factor	21.06	5.82	11-34	22.46	7.71	11-56	1.3	.20
Approach-Avoidance Style Factor	36.15	9.97	16-54	36.82	10.61	16-56	.522	.60
Personal Control Factor	15.5	4.45	5-26	13.79	3.81	5-20	2.96	<.05*

Controlling for Demographic Characteristics

	PSI	CSSES	CCTST
Age	$F = .54, \ p > .05$	$F = .72, \ p > .05$	$F = 1.16, \ p > .05$
Work	$F = .79, \ p > .05$	$F = .90, \ p > .05$	$F = .71, \ p > .05$
Work Setting	$F = 1.07, \ p > .05$	$F = .94, \ p > .05$	$F = .77, \ p > .05$
Volunteer	$F = 1.0, \ p > .05$	$F = .88, \ p > .05$	$F = .62, \ p > .05$
Education level	$F = .64, \ p > .05$	$F = .62, \ p > .05$	$F = .88, \ p > .05$

(Education split into baccalaureate degree or not)

Reliability of Measures

	Table 5. Pre and Post Reliability Measures	
	Pre Test	Post Test
	Cronbach	Cronbach
PSI (N=52)	.91	.88
CSSES (N= 54)	.95	.98
CCTST (N=31)	.84	.91

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Correlations between measures

Table 5. Correlations between measures

	PSI	CSSES	CCTST
PSI	--	-.316**	.154
CSSES	-.316**	--	-.153
CCTST	.154	-.153	--

Summary of Findings

* Service learning experiences over the course of a single semester did not significantly impact student performance on these measures.

* Critical thinking scores actually decreased.

* The only score that improved was the Personal Control Factor subscale within the Problem Solving Inventory.

* Demographic factors (age, education, work experience) did not affect scores on these measures.

* Only found moderate correlation between CSSES and PSI

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Discussion

* Loss of subjects at post test and poorer critical thinking scores on CCTST likely due to:
    * Mental fatigue- test given at end of clinical day and at end of semester when lots of assignments are due
    * Subject burden (assessing too much at one time)
    * Voluntary nature of participation in the study.

    No strong evidence of correlation between measures for framework development.

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Recommendations

* Avoid tendency to over assess your students!

* Acknowledge and address issues of subject burden.

* Design study to ensure consistency of sample across measures.

* Consider examining change in measures over full course of program curriculum instead of short time frame.

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Impact Of Service Learning Experiences On Student Problem Solving, Critical Thinking And Community Self-Efficacy.

University of North Carolina Wilmington School of Nursing, College of Health and Human Services

Canty-Mitchell, J., Livsey, K., Lavender-Stott, E., Ezzell, D. , Highsmith, C., Kim-Godwin, S.

Background: In the health professions, applied learning includes students' engagement in practicum, internship, capstone, clinical, residency, or service-learning experiences beyond the classroom. Extant literature on service-learning in higher education is limited to evaluation studies or anecdotal descriptions, but it is not clear that these have been used systematically in research to test the impact of service-learning on student learning outcomes.

Purpose: This study used a standardized framework to evaluate the influence of applied and service-learning experiences before and after participation in applied and service-learning activities within School of Nursing community health nursing clinical course.

Sample: Eighty-eight first semester senior undergraduate nursing students participated in the study during the 2011-2012 academic year as part of their community health nursing course.

Methods: Pre and post- test questionnaires were used to assess sample demographics, student's problem solving and critical thinking skills, and community service self-efficacy. In addition, participants completed an essay reflecting on their clinical experiences for the semester, prompted by a standardized set of reflection questions.

Results: There was no significant change in student's problem solving and community service self-efficacy pre- and post-test scores. Students did show a change in critical thinking skills from before and after service-learning activities.