

# Theory to Practice: Improving Students' Attitudes on Nursing Research

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## Abstract

Application of Evidence Based practice in Nursing Education is a critical need, where theory, research, experience and student values are synthesized in the planning, implementation and evaluation of program curricula. Vygotsky's Cultural Historical Activity Theory is the framework in the design of a nursing research course in an Accelerated Bachelor's of Science program. Theory anchors learning strategies and assessment activities with students' needs based on cultural and historical factors. Complexity in research methodology and analysis, lack of experience in scholarly writing, and course examinations create anxiety and negative attitudes for many students. Education in the research process and evidence-based practice is essential in professional preparation. Balancing the students' needs and responsibilities is necessary in moving towards meeting meaningful goals for learning complex concepts. Theory based engaging strategies are needed to improve learning and attitudes concerning nursing research.

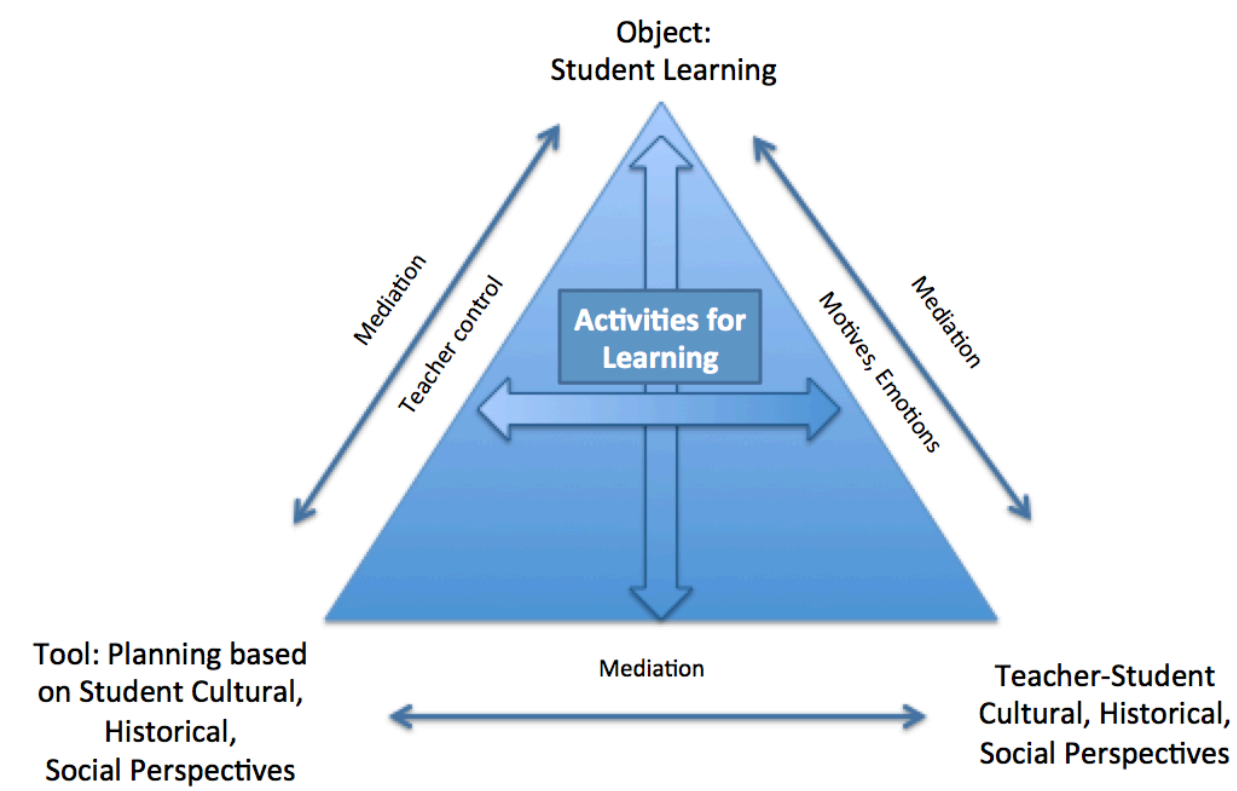
## Design

This is an Evidence Based project, where theory, research, experience and student values are synthesized in the planning, implementation and evaluation of a required nursing research course. There were twenty-six students enrolled. A semantic differential scale measured students' attitudes towards nursing research at the beginning of the research course; repeated upon course completion. A student survey, including open-ended questions, was administered at the end of the course.

## Theoretical Framework

Consideration needs to be given to the cultural milieu of students. Teaching and learning strategies need to incorporate the students' prior experiences, the students' need to "know exactly what they are supposed to do, and acknowledges their feelings of being so pressed for time" (Cangelosi & Moss, 2010, p. 140). Consideration has to be given to the total workload the students are carrying.

## Vygotsky's Cultural Historical Theory



Learning activities, the *activities* of the underlying CHAT, incorporate techniques based upon theories of learning and teaching; illustrating learning through intentional actions within social settings. The teacher's actions allow students to engage in meaning making of complex concepts, contributing to the appropriate socio-cultural formation, developing a deliberate conscious ability to determine situational connections and applications (McDermott, 2014).

## Methods

### Student EBP Project

At approximately halfway through a nursing program, courses in Nursing Theory, Research, and EBP should begin, as the students have experienced some contextual focus on nursing practice. During the first week of the nursing research course, groups of 3 to 4 students are formed to identify an issue in nursing involving a component of quality, safety and/or effective care; formulation of a PICO(T) question begins. Students begin their research in class. Each student prepares a literature review of three to four relevant research articles, collaborating during class time, preparing a scholarly research poster disseminated at the end of the course.

## Example of Students' Group Poster

### Preventing Hospital Readmission Through Diabetes Education

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**Abstract**

The purpose of our research is to better understand the reasons why patients with diabetes are being re-admitted to the hospital after they have already received treatment and education. Studies and other literature relating to diabetes education, the role of a certified nurse educator and early readmission were analyzed. Our findings suggest that there is a need for better and focused teaching to take place when the diagnosis occurs or when diabetes is at risk.

**PICO**

**P** Hospitalized patients with poorly controlled diabetes  
**I** Incorporate diabetes nurse educator in discharge planning  
**C** Compare to floor nurse educator  
**O** Rates of readmission within 30 days

**Background**

As a greater number of people are being diagnosed with diabetes (CDC, 2013) the costs associated with providing healthcare to this population are also increasing. In 2012, the cost of hospital inpatient care for patients with diabetes was 71 billion dollars (ADA, 2014). Contributing to this cost is an increased rate of early readmission from this population group. This rate has been found to be as high as 21% (Rubin et al. 2013). Poor health literacy and health system failure are among the factors discovered for early readmission of diabetic patients (Rubin et al. 2014). Several studies have been conducted investigating the efficacy of education by nurse educators on lowering readmission rates. The focus of this analysis is to corroborate studies supporting the use of increased education methods to lower readmission rates.

**Review of Literature**

- Certified diabetes educators (CDEs) have advanced knowledge and skills in diabetes education and who are capable of solving complex diabetes problems, diagnosing and prescribing education and treatment and managing diabetes programs (Torrey, 2013, p. 736).
- According to HCUP/10b, of the total US population diagnosed with diabetes, 22% accounts for hospitalizations (8 in history) each year (as cited in Rubin et al. 2014).

**Methods**

Using EBSCO Host and PubMed, a systematic analysis of the literature concerning diabetic education and hospital readmission was performed. Articles specifically mentioning the use of diabetic nurse educators were targeted. Keywords: Diabetes, diabetes and education, e-health literacy, nurse educators, diabetes re-hospitalization, readmission, glycemic control.

**Conclusions**

Based on current research, evidence indicates that former diabetes education reduces readmission rates by patients with poorly controlled diabetes. Patients who are treated in the hospital by certified diabetes educators have lower HbA1c levels than those who were taught informally by someone such as a floor nurse (Healy et al. 2013). Due to the above research in general, it is a greater need for certified diabetes educators (Torrey, 2013). Because patients with diabetes are expected to take a lead role in the management of their own care, we believe it is imperative that proper teaching and support is engaged (Rise et al. 2013).

## Use of Games

There are many games that can be adapted and used for differentiating research terminology and methodologies, types of variables, reliability and validity measures, and ethical concepts.

## Example of Jeopardy Game

Ethics	Research	Research I	Research II	Research Misc.	Hodgepodge
\$100	\$100	\$100	\$100	\$100	\$100
\$200	\$200	\$200	\$200	\$200	\$200
\$300	\$300	\$300	\$300	\$300	\$300
\$400	\$400	\$400	\$400	\$400	\$400
\$500	\$500	\$500	\$500	\$500	\$500

Research I for \$300

Does the type of feeding for infants (breast versus bottle) during the first 6 months of life affect the incidence of infections during early childhood?

What is the dependent variable?

Research I for \$200

What is the name of the type of qualitative study that gathers information about a culture?

What ethical term refers to minimizing harm and maximizing benefits?

**References:** Cangelosi, P. & Moss, M. (2010). Voices of faculty of second-degree baccalaureate nursing students. *Journal of Nursing Education*, 49(3), 137-142; Epstein Educational Enterprises. (nd). What is the IF-AT? [Webpage] Retrieved from <http://www.epsteineducation.com/home/about/>; Mattila, L. & Eriksson, E. (2007). Nursing students learning to utilize nursing research in clinical practice. *Nurse Education Today*, 27, 568-576; McDermott, J. (2014). *The Effect of Supplemental Podcasts on Test Scores of RN To BSN research course students* (Doctoral Dissertation).

## Critiques of Qualitative and Quantitative Research

Professionals need to be able to identify best current practice, and the ability to evaluate and use published research is critical in achieving this outcome. Students need to be able to objectively review research to highlight both its strengths and weaknesses, and its applicability to practice. Reviewing articles related to student projects provides context and relevance, providing a meaningful learning experience.

## Immediate Feedback Assessment Technique

Quizzes were conveyed using the Immediate Feedback Assessment Technique, also known as the IF-AT (Epstein Educational Enterprises). Individual assessment, followed by group testing, allows the students time for intentional deliberation, providing more exposure to material, promoting learning through recursion. "The IF-AT teaches while it assesses, facilitating learning and improving students' retention of the information being tested." The developers purport that students love using the IF-AT, and from student feedback and observations, it does add enjoyment to assessment of learning. The IF-AT system resembles lottery tickets; students scratch off what they believe are the correct answers. A star would be revealed if answered correctly. Allowing group testing promotes students debating rationales.

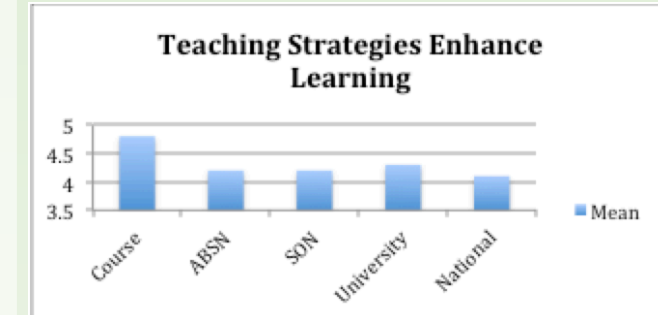
If not correct, students scratch off a second choice, or even a third, receiving partial credit aligned with number of attempts. (Epstein Educational Enterprises).

IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF-AT®)					
Name	Test #				
Subject	Total				
SCRATCH OFF COVERING TO EXPOSE ANSWER					
	A	B	C	D	Score
1.	★				2
2.		★			4
3.			★		4
4.				★	2
5.					1
6.				★	4

## Results

	Mean	SD	SE	95% Confidence Interval of the difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pre-interested/bored	1.61	1.27	.25	1.103	2.13	6.50	25	.000*
Post-interested/bored								
Pre-Confident/afraid	1.35	1.35	.27	.80	1.89	5.07	25	.000*
Post-Confident/afraid								
Pre-Pleasant/unpleasant	1.65	1.60	.31	.69	1.01	5.28	25	.000*
Post-Pleasant/unpleasant								
Pre-Good/bad	1.46	1.30	.26	.93	1.99	5.72	25	.000*
Post-Good/bad								
Pre-Warm/cold	1.65	1.32	.26	1.19	2.19	6.37	25	.000*
Post-Warm/cold								
Pre-Invigorated/tired	1.96	1.64	.32	1.30	2.62	6.11	25	.000*
Post-Invigorated/tired								
Pre-Curious/disinterested	1.88	1.61	.32	1.24	2.53	5.98	25	.000*
Post-Curious/disinterested								
Pre-Adequate/inadequate	1.50	1.33	.26	.96	2.04	5.73	25	.000*
Post-Adequate/inadequate								
Pre-Comfortable/uncomfortable	1.58	1.60	.31	.93	2.22	5.01	25	.000*
Post-Comfortable/uncomfortable								
Pre-Inspired/turned off	1.81	1.58	.31	1.17	2.44	5.85	25	.000*
Post-Inspired/turned off								

Paired samples T-test were conducted on the paradoxical pairing of words on a semantic survey tool to measure attitudes on nursing research.



Open-ended comment section on the survey had positive responses on the teaching strategies. Examples:

"The group project was a fun way to learn. I also like papers better than tests, so I liked the way our grade was done."

"I loved learning how much nursing research is important in practice and how to become involved."

"Gave me an appreciation for research. Simplified the concept of Nursing Research in which I was able to gain a better understanding of it as well as consider the field."

## Conclusion

With the increasing complexity, ambiguity and chaos in the delivery of healthcare, the idea of reflective, intentional learning in a safe, engaging environment is critical. Learning activities are needed to create places for thinking about the meaning of the content being learned, relating significance to nursing practice (McDermott, 2014). Vygotsky's Cultural-Historical Activity Theory has the potential to bridge the theory to practice gap in nursing education; strengthening the relationship between theory, research and practice in nursing.