

Self-Efficacy of Health Assessment Skills for Nursing Students after a Comprehensive Health Assessment Video Assignment

Michael D. Bumbach, PhD, MSN, ARNP, RN, FNP-BC

Sandra Wolfe Citty, PhD, ARNP-BC, CNE

Nancy Young, MSN, ARNP, CPNPPC, CNE

Allison Kathleen Peters, DNP, RN, CNOR, NEC

Anita M. Stephen, MSN, CNLBC

Charlene A. Krueger, PhD, ARNP

Background

- Bandura's construct of self-efficacy: increase a person's confidence in relation to a particular desired outcome
 - Self-efficacy is "an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments" (Carey & Forsyth, 2017)
 - High self-efficacy generally coincides with a higher desired outcome (Bandura, 1977)
- Important for new nursing students
 - In preparation to clinical rotation
- Optimize the student's educational experience
 - With the contemporary limitations to traditional nursing education

BANDURA'S SELF-EFFICACY THEORY

Influences

Performance
Accomplishments

Vicarious
Learning

Social
Persuasion

Emotional
Arousal



Perceived Self-Efficacy



Possible Outcomes

Persistence

Performance

Approach versus
Avoidance

Background

- Limitations to nursing education:
 - Limited resource utilization: nursing education technology
 - Faculty shortage
 - Limited teaching & lab time
 - Providing strategies to increase efficacy
 - *efficiency without compromising quality*
- Technology is increasing in academia, but utilization is sparse
- Nursing education and technology
 - Using alternative application methods has been suggested to be equivalent or even superior to traditional educational assessment measures (Chan, 2015; Nystrom, Palsson, Hofsten, & Haggstrom, 2013)

Limited Resources





Technologically Savvy Generation

Student Engagement



TELL ME AND I FORGET
TEACH ME AND I REMEMBER
INVOLVE ME
AND I LEARN

BENJAMIN FRANKLIN



Background

- Assess the increase use of technology in Nursing education
- Questions arise:
 - Does it work?
 - Will it work for nursing?
 - Are these methods efficacious?
 - What are students perceptions in using technology in Nursing education?

Research Question/Aim/Hypothesis

Research Question: Does a comprehensive health assessment video project affect nursing students self-efficacy, for first semester nursing students?

Central Aim: To improve undergraduate nursing students' self-efficacy toward health assessment skills by letting students record a video of their skills in action in clinical practice, providing constructive feedback, and encouraging self-reflection about their performance.

Hypothesis: There will be an increase in perceived self-efficacy from before a comprehensive health video assessment project to after the project, for first semester nursing students.

Methods

- Sample:
 - Upper division, first semester, undergraduate nursing students, recruited from the Health Assessment and Communication course
 - Large, southeastern research university
- Study Procedure:
 - IRB approved and deemed exempt, due to minimal risk to participants, and a customary form of course evaluation
 - Developed survey to assess perceived self-efficacy of their health assessment skills both before and after a comprehensive video review project
 - After the course final examination, the participants were offered two exam points for participation in the study survey

Comprehensive Health Assessment Video



- Nursing student participants recorded a video in a professional clinical environment chosen by the student assessing a 'patient' volunteer
- The video rubric was used as an outline for the student and consisted of a list of actions and verbal cues included in a comprehensive video assessment
- The videos were uploaded to the GoReact[®] educational platform
- Video grading was based on the predetermined scoring rubric and the ability of the student to perform the tactile techniques necessary for health assessment procedure

Online Video Assessment Tool

- Online application linked to the educational course platform
- Student uploads a video
- The video grader can give feedback to the student, specific to the site where the feedback is relevant
- Similar to a real-time, face-to-face comprehensive assessment done in a teaching lab or hospital

The logo for 'goreact' is displayed in white text on a black circular background. The 'o' in 'go' is stylized with a red dot in the center. The background of the slide features a blue vertical bar on the right side.



Michael Bumbach: Mental Status check: done here. Don't forget there are more questions to screen for mental health, then just depression.

COMMENTS 14

All 14 ▾



00:12 **Michael Bumbach:** Good Introduction. It is very professional to make eye contact and to introduce yourself.

00:26 **Michael Bumbach:** [🔊 00:12]

00:41 **Michael Bumbach:** Mental Status check: done here. Don't forget there are more questions to screen for mental health, then just depression.

00:43 **Chad Jardine:** M Mental Status

00:50 **Michael Bumbach:** Nutrition Check: Noted here.

00:51 **Chad Jardine:** N Nutrition

N M H D

Comment Record Upload YouTube Audio Library End Note

Add a text comment...

Characters: 0/500 Timeline: Start Typing... Hit "Enter" to save your comment

Survey Tool

- 10 question self-efficacy, pre- and post- video project.
- No prior studies with this survey tool
 - Similar tool used by a different college
- Likert style, 6-point scale using 'Very Unconfident' to 'Very Confident'

Survey Tool

Behavior	BEFORE THE VIDEO PROJECT
	1 = very unconfident, 2 = unconfident, 3 = somewhat unconfident, 4 = somewhat confident, 5 = confident, 6 = very confident
Discuss the nurse's role in patient assessment compared to the role of other health professionals (e.g., physician or pharmacist)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Interpret physical exam findings	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Conduct a comprehensive health assessment for a given patient.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Describe how physical assessments are performed for the various body systems.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Document physical exam findings in a SOAP note.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Behavior	AFTER THE VIDEO PROJECT
	1 = very unconfident, 2 = unconfident, 3 = somewhat unconfident, 4 = somewhat confident, 5 = confident, 6 = very confident
Discuss the nurse's role in patient assessment compared to the role of other health professionals (e.g., physician or pharmacist)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Interpret physical exam findings	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Conduct a comprehensive health assessment for a given patient.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Describe how physical assessments are performed for the various body systems.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Document physical exam findings in a SOAP note.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6

Results

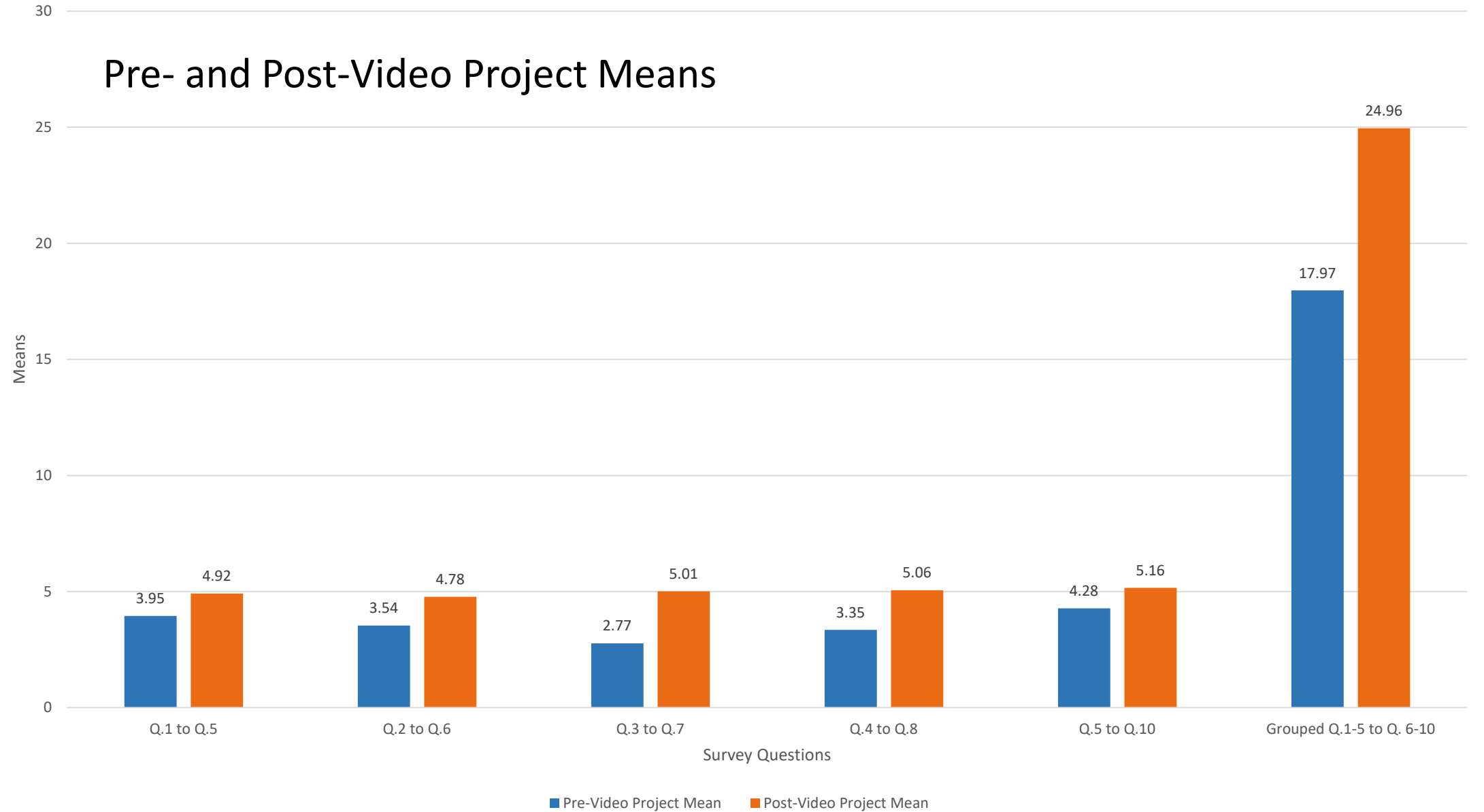
- One-hundred twenty (N=120) completed survey
 - 92.31% Completion
- No demographic data collected by this survey
- Cohort demographics include:
 - Female 92.3%
 - Caucasian 70%
 - Hispanic 11.5%
 - Asian 9.2%
 - African American 6.9%
 - American Indian or Native American <1%

TABLE 1

Descriptive Statistics of the Scores of Self-Efficacy Questions from the Pre- and Post-Video Health Assessment by Paired-Samples T-test Results

Item Content	Pre-Video Project Mean (SD)	Post-Video Project Mean (SD)	Mean Differen ce (SD)	T (DF)	p Value
Q.1 to Q.6 - Discuss the nurse's role in patient assessment compared to the role of the other health professionals (e.g. physician or pharmacist)	3.95 (1.09)	4.92 (.84)	.97 (1.02)	10.38 (119)	<.001
Q.2 to Q.7 - Interpret physical exam findings	3.54 (1.16)	4.78 (.92)	1.24 (1.07)	12.72 (119)	<.001
Q.3 to Q.8 - Conduct a comprehensive health assessment for a given patient.	2.77 (1.17)	5.01 (.82)	2.24 (1.31)	18.76 (119)	<.001
Q.4 to Q.9 - Describe how physical assessments are performed for the various body systems	3.35 (1.23)	5.06 (.73)	1.71 (1.20)	15.47 (118)	<.001
Q.5 to Q.10 - Document physical exam findings in a SOAP note	4.28 (1.37)	5.16 (.85)	.88 (1.28)	7.49 (119)	<.001
Aggregated Q.1-5 to Q.6-10	17.97 (4.83)	24.96 (3.30)	6.70 (4.56)	16.63 (118)	<.001

Pre- and Post-Video Project Means



Discussion

- Our study showed perceived self-efficacy in the first semester nursing student increased after a comprehensive video health assessment assignment
- All survey items significantly increased, including the aggregated data
- Findings support further research with technology and Nursing pedagogy
 - Video review projects improve nursing student's self-efficacy
 - Also, may result in more streamlined methods for nursing student evaluation for faculty

Limitation/Further Research

- Limitations
 - 1 cohort, within 1 setting
 - Small overall participant number
 - Increased self-efficacy may be from an ideal situation, actual clinical practice settings may reveal different results
- Further Research
 - Expand the cohorts with multiple settings
 - Expand the study to more participants
 - Expand the video projects to other clinical skill sets and in more clinical environments, i.e. simulation, etc.

Conclusion

- This study confirmed the use of video projects in nursing education in regards to a student's perceived self-efficacy
- Future research and evaluation methods consistent with contemporary educational pedagogy is essential
- Further methods for pedagogical evaluation is also a necessary component of quality nursing education

References

- Carey, M. & Forsyth, A. (2017, February 9). Teaching tip sheet: Self-efficacy. American Psychological Association. Available at:
<http://www.apa.org/pi/aids/resources/education/selfefficacy.aspx>
- Bandura, A. (1977). *Self-efficacy: Toward a unifying theory of behavioral change*. *Psychological Review*, 84(2), 191-215.
- Chan, J. Y. (2015). Using medical incidents to teach: effects of vicarious experience on nursing students' self-efficacy in performing urinary catheterization. *Journal of Nursing Education*, 54(2), 80-86.
- Nystrom, A., Palsson, Y., Hofsten, A., & Haggstrom, E. (2013). Nursing students' experiences of being video-recorded during examination in a fictive emergency care situation. *International Journal of Nursing Practice*, 20, 540-548.