Reliability and Validity of the Willingness to Adopt Inclusive Teaching Strategies in Nursing Education Instrument

Janet A. Levey, PhD Candidate, MSN, RN-BC, CNE

MARQUETTE UNIVERSITY COLLEGE OF NURSING

Background/Significance

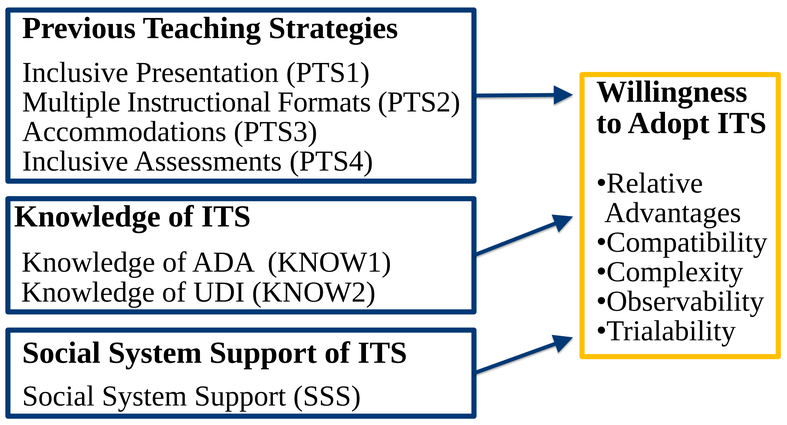
- Nursing education reform has challenged educators to use innovative inclusive teaching strategies (ITS) to address diverse learners.
- Universal design for instruction (UDI) is a teaching approach which improves accessibility and engagement to meet the diverse learning styles of students. However, evidence of ITS in nursing education based on UDI principles is absent in the literature.
- **Universal Design for Instruction** *(Scott, McGuire, & Shaw, 2001):*
  - → Equitable use
  - → Flexibility in use
  - → Simple and intuitive use
  - → Perceptible information
  - → Tolerance for error
  - → Low physical effort
  - → Size and space for approach
  - → Use a community of learners
  - → Instructional climate

Purposes of the Study

- Determine the psychometric properties of an instrument to measure Willingness to Adopt Inclusive Teaching Strategies in Nursing Education Instrument (ITSinNE).
- Analyze the characteristics and relationships that enhance or impede nurse educators' willingness to adopt inclusive teaching strategies.

Theoretical Framework

- Domains of the Willingness to Adopt ITSinNE based on Rogers (2003) model for Diffusion of Innovation.



Method

- **Sample:** Nurse educators (N = 311) with at least two years of teaching experience in Diploma, Associate Degree, RN to BSN Completion, and Baccalaureate programs were recruited from associations and professional organizations' electronic mailing lists.
- **Design:** Cross-sectional study using SurveyMonkey®.
- **Data Analysis**: Descriptive, Cronbach's alpha, and hierarchical multiple regression. The complexity of the ITSinNE model necessitated performing a separate confirmatory factor analysis (CFA) on the exogenous (PTS1, PTS2, PTS3, PTS4, KNOW1, KNOW2, and SSS) and endogenous (Willingness to adopt ITS) variables.
- **Face and Content Validity**: Scales and items were examined by 10 national content experts and received CVI ratings ranging from .84 to .97
- **Preliminary study:** Nurse educators (n = 22) demonstrated good to adequate reliability estimates.
- **Measurement:** The ITSinNE is a 55-item instrument.

Characteristics of Nurse Educators

Category	Distribution
Years Teaching in Academia	Range 2 to 43 Mean 13
Age	Range 28 to 75 Mean 53
Employment Status	Full-time N = 276 (89%) Part-time N = 35 (43%)
Type of Institution	Public N = 176 (57%) Private N = 135(43%)

Note: Percents may not add to 100 due to rounding.

Cronbach's Alphas

Scale	Results
Previous Teaching Strategies	PTS1 .52 PTS2 .68 PTS3 .74 PTS4 .44
Knowledge of ITS	KNOW 1 .87 KNOW 2 .89
Social System Support for ITS	SSS .82
Willingness to Adopt ITS	Overall .93 Relative Advantage .90 Compatibility .88 Complexity .81 Observability .70 Trialability .85

Note: Due to space constraints, not all results are displayed.

Confirmatory Factor Analysis

Variables	χ^2	RMSEA	GFI	TLI	WRMR
Exogenous Model	0.00	.08	.96	.95	1.64
Endogenous Model	0.00	.18	.89	87	2.65

Note: MPLUS was used to calculate fit indexes for chi-square (χ^2), root mean square error of approximation (RMSEA), normal fit index (NFI) goodness-of fit-index (GFI), and weighted root mean square residual (WRMR).

Hierarchical Multiple Regression Significant Findings

Predictors	*B*	*SE B*	*Beta*	*Wald*	*p*
Step 1					
Constant	*4.003*	.119		33.560	.001
Yrs Teaching	-.006	.003	-.115	-1.978	.05
Number of Prof. Dev'p	.133	.038	.201	3.488	.001
Step 2					
Constant	1.079	.254		4.239	.001
Yrs Teaching	-.008	.003	-.140	-2.962	.003
PTS2	.195	.052	.206	3.735	.001
KNOW2	.198	.043	.274	4.586	.001
SSS	.182	.039	.262	4.712	.001
Note: R^2 = .062 for Step 1; R^2 Δ = .386 for Step2; Adjusted R^2 = .448					

Note: Due to space constraints, not all results are displayed.

Discussion

- A total of 401 nurse educators participated in the study. The sample revealed 311 educators taught in pre-licensure or Baccalaureate programs and the analysis targeted this population.
- Most of the subscale showed adequate to good reliability scores.
- The results of the CFA demonstrated the exogenous model fit the sample and model-implied covariance matrix based on the RMSEA, GFI, and TLI indexes. The endogenous model did not meet model fit based on the first analysis. However, when the endogenous model domain was opened-up (released) and each subscale was allowed to stand on its own, model fit indexes improved (χ^2 = 0.00; RMSEA = .098; GFI = .97; TLI = .96; WRMR = 1.24). This supports the construct validity of the ITSinNE could be improved with slight model modification and respecification.
- The model as a whole explained 44.8% of the variance in willingness to adopt inclusive teaching strategies.
- Knowledge of UDI was the best indicator of an educator's willingness to adopt ITS.

Implications

- **Nursing Education**
  - → None of the characteristics of a nurse educator contributed to the model, except for years of teaching which was a negative indicator. Schools of nursing might need to include experienced educators in UDI professional development in-services.
  - → Knowledge of UDI was the strongest indicator of willingness to adopt ITS. Professional in-services focused in this area are a starting point for the adoption and diffusion of this pedagogy.
- **Nursing Research**
  - → Rogers DOI theory was useful in exploring nurse educators' willingness to adopt ITS.
  - → Demographic characteristics of a nurse educators and educational setting (years of teaching, employment status, type of institution, primary teaching environment, number of nursing students with disabilities and professional in-services) revealed other demographic variables might need to be identified when framing future studies of UDI principles in nursing education based on DOI theory.
- **Nursing Practice**
  - → There were no studies on UDI as a teaching strategy to enhance:
    - Health literacy for patients with diverse learning styles.
    - Hospital-based orientation programs and/or in-services incorporating UDI principles as an approach to address diverse ways new hires and experienced employees learn.

Acknowledgements

- Dissertation Committee: Marilyn Frenn Ph.D., R.N., CNE, ANEF, FAAN (Chair), Kathleen Bobay Ph.D., RN, NEA-BC, and Heidi Schweitzer Ph.D.
- Statistical Consultants: Sharron Ronco Ph.D. and Roger Brown Ph.D.

Funding

- NLN Foundation for Education funded this dissertation project.