VERIFYING THE RELIABILITY OF INFORMATICS COMPETENCY ASSESSMENT TOOL

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OBJECTIVES

o Define informatics

o Explain informatics competencies

o Understand study outcomes

o Identify key challenges and lessons learned

INFORMATICS DEFINED

- Informatics:

  application of information technology, any field, impact

  (Tolliver, 2011)

- Nursing informatics:

  -nursing, computer, information science

  -data, information, knowledge, wisdom

  (American Nursing Association, 2008)

LITERATURE REVIEW

Informatics competency tools

- Kaminski (2010-2012)

  --self assessment tool

  --Technical, Utility, Leadership

- Schleyer, Burch and Schoessler's (2011)

  --five level measurement tool

  --Novice, advanced beginner, competent,

LITERATURE REVIEW CONTINUED

- Staggers' four level measurement tool

- Technology Informatics Guiding Education Reform

- Public Healthcare

- American Association of Colleges of Nursi

- Differences

- Content & face validity

NURSING INFORMATICS COMPETENCIES

- Computer literacy
- Information management
   --Search, Use, and Create Databases
- Technology skills—Electronic Health Records, Personal Health Records and multiple others
- Nurses must demonstrate informatics skills.

INFORMATICS COMPETENCES ARE ESSENTIAL

- Improve quality of patient care (Havens, Vasey, Gittell, & Lin, 2010)

- Reduce medical error

- Improve patient safety (Dingley, Daugherty, Derieg, & Persing, 2008)

STUDY PURPOSE AND AIMS

- Dr. Falan's data

- Reliability of nursing informatics self assessment tool.

- Hypothesis:

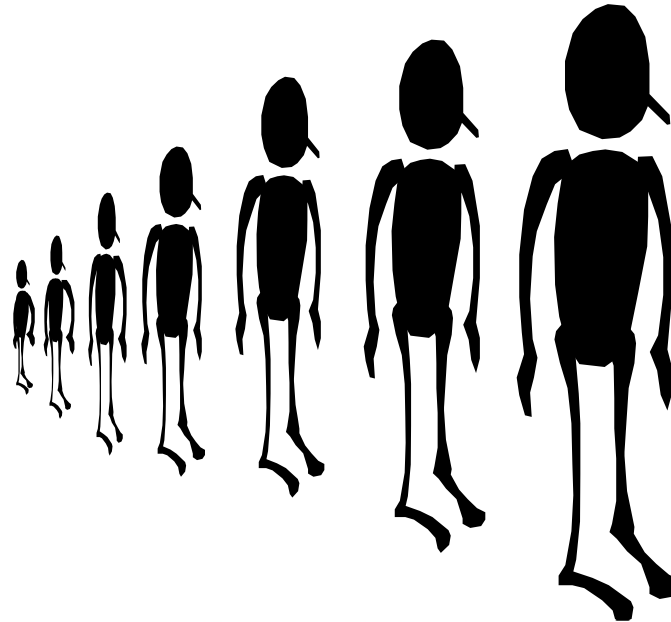 No significant difference in test/retest scores.

METHODOLOGY

- Repeated measures design—test/retest

- 2 week interval

- Dichotomous → Likert scale

- Classified: no experience, beginner, competent, proficient, expert

(Benner, 1982)

POPULATION

- Convenience sample of university students

- N=25

DATA

Table 1. Demographics

Characteristics	N (%)
Gender-female	22(78%)
Race	24 (96%) Caucasian 1(4%) African American

Table 2. Sample characteristics

Years in nursing program	N (%)
1 year	2(8)
2 years	9 (36)
3 years	10 (40)
4 years	2 (8)
Other	2 (8)
Total	25 (100)

Table 3. Academic preparation

Highest academic degree	N (%)
No degree	16 (64)
Associate's	4 (16)
Bachelor's	4 (16)
Master's	1 (4)
Total	25 (100)

RESULTS

- T-test analysis

- Overall means were compared.

- See table below:

Table 4. Examples of competency statement with results

Competency	*t*	*p*
uses word processing applications	-1.541	.136
demonstrates keyboarding skills	-1.549	.134
uses spreadsheet applications	-1.414	.170
uses presentation applications to create slides, displays, overheads	-1.769	.090

RESULTS

- P values results: Most p values > 0.05
- 82/104
- Examples:

Table 5. Examples of competency with p values less than 0.05

Competency	t	p
uses multimedia presentations	-2.400	.024
uses operating systems	-2.493	.020
uses computer technology safely	-2.388	.025
develops inventive ways to access data and interact with information systems	-2.138	.043

DISCUSSION

- p > 0.05: not significantly different, consistent

- p<0.05: significantly different

- Learning

- Attention on new competencies

- Realization

CONCLUSIONS

- Pilot study to determine survey reliability.

- Nursing informatics assessment tool expanded from Kaminski's self assessment tool.

- Majority of the competency statements were answered consistently.

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IMPLICATION AND RECOMMENDATIONS

○ Help educators understand students' skill level.

○ Shorter interval period—reduce significant difference

○ Increase subject pool

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AT THE END

o 4 values missing after data cleansing.

o Missed values filled with the mode of other 24 values.

o For example, uses computer applications to document client care, subject 17 had a missing value.

The other 24 subjects' responses were analyzed and the mode 3 was filled.

AT THE END

- For the same question, means higher.
- the values not jump into other categories:
  'no experience' 1 point and 'expert' 5 point.

Competency	Mean for first time	Mean for second time
Presentation graphics	2.68	2.96
Telecommunication devices	2.40	2.96
Uses operating systems	2.16	2.64
Uses computer technology safety	3.24	3.72
Develops inventive ways to access data and interact with information systems	1.36	1.68