Patient Education: Evaluation of the Affective Domain Questionnaire to Assess Changes in Learning Across Three Timed Measurements

Dale Hilty, PhD ~ Jody Gill-Rocha, MS, RN ~ Kathryn Ross, MSN, RN ~ Anne Hinze, MA, MS ~ Kali Clark, BSN Candidate

Background

Krathwohl, Bloom, and Masia's (1964) taxonomy was used to develop an affective domain questionnaire.

Responding	
2.1	Acquiescence in responding
2.2	Willingness to respond
2.3	Satisfaction in response
Valuing	
3.1	Acceptance of a value
3.2	Preference of a value
3.3	Commitment
Organization	
4.1	Categorization of a value
4.2	Organization of a value system
Characterization by a value	
5.1	Generalized set
5.2	Characterization

Krathwohl et al . Definitions

RESPONDING, the individual is perceived as responding regularly to the affective stimuli.
2.1 Acquiescence in responding, s/he is merely complying with expectations (e.g., at the request of his teacher).
2.2 Willingness to respond, s/he responds increasingly to an inner compulsion (e.g., has an interest in social problems broader than those of the local community).
2.3 Satisfaction in response, s/he responds emotionally as well (e.g., works with clay, especially in making pottery for personal pleasure).
VALUING describe increasing internalization.
3.1 Acceptance of a value (e.g., continuing desire to develop the ability to write effectively and hold it more strongly),
3.2 Preference for a value (e.g., seeks out examples of good art for enjoyment of them to the level where s/he behaves so as to further this impression actively),
3.3 Commitment (e.g., faith in the power of reason and the method of experimentation).
ORGANIZATION
4.1 Conceptualization of a value (e.g., to find out and crystallize the basic assumptions which underlie codes of ethics)
4.2 Organization of a value system (e.g., weighs alternative social policies and practices against the standards of public welfare).
CHARACTERIZATION
5.1 Generalized set (e.g., views all problems in terms of their aesthetic aspects, or readiness to revise judgments and to change behavior in the light of evidence).
5.2 Characterization (e.g., develops a consistent philosophy of life)

Background (Cont'd)

AFFECTIVE DOMAIN QUESTIONNAIRE (ADQ)

The first edition (FE) of the ADQ consisted of six items (i.e., one question for subdivision) which measured the Responding and Valuing categories (Krathwohl, Bloom, & Masia, 1964, p. 95). The ADQ second edition (SE) measured four categories: responding, valuing, organization, and characterization. ADQ-SE is comprised of 30 questions (i.e., three items for each of the 10 subcategories). Hilty, Hinze, & Clark (2018a) reported coefficient alpha reliability estimates for the ADQ-FE ranging from .803 to .911.

Hilty Gill-Rocha, Ross, Hinze, and Clark (2018b) found the Affective Domain Questionnaire (ADQ) consisted of three common factors with coefficient alpha reliability estimates ranging from .895 to .931. Using the competitive greatness scale (measuring a student's ability to be the best they can be when their best is needed, continuous self-improvement, and embracing difficult challenges) to create high versus moderate-low scoring groups, Hilty et al. (2018b) found significant differences between the two groups with the ADQ second and third common factors.

Aim

The purpose of this educational intervention was to determine if the ADQ-SE would assess changes in learning across three timed measurements.

Methods

The purpose was to create a patient education for senior level students in a Bachelor of Science Nursing (BSN) program based on faculty lectures, faculty laboratory demonstration, and student demonstration of skill in a simulation laboratory. Based on the patient education curriculum, students were assigned to small groups and could chose from the following topics: heart failure, mi/stent, open heart surgery-equipment lines, sepsis/shock/mods, ventilators/ards, traumatic brain injury, and burns. Prior to the skill demonstration in the simulation laboratory, students selected one of the eight topics and submitted a term paper summarizing the topic and created a communication script describing how the information would be presented to the patient.

Timed Measurements

1st Assessment: Pre-test
Intervention 1: Faculty lectures, faculty laboratory demonstration, assignment of small group research paper and communication script.
2nd Assessment:
Intervention 2: Students assumed the role of a Registered Nurse in a simulation including the patient and family members. Faculty members spoke via a microphone as the voice for patient.
3rd Assessment:

Instrumentation

Affective Domain Questionnaire (ADQ; Hilty, Hinze, & Clark, 2018) monitored the student affective experiences (5-point Likert Scale, Strongly agree to Strongly Disagree). The competitive greatness scale (Hilty, 2017) measures being the best you can be when your best is needed, continuous self-improvement, and welcoming difficult challenges (5-point Likert Scale, Strongly agree to Strongly Disagree).

Results

Hypothesis 1: The Affective Doman Questionnaire (ADQ) was used to examine affective changes during the three timed-measurements. Using SPSS 25, a repeated measures ANOVA on these data produced a significant result ($F(2,36) = 111.805$, $p=.001$) for ADQ common factor 1. Hypothesis 2: On the ADQ common factor 2, a significant result ($F(2,36) = 103.845$, $p=.001$) was found using ANOVA repeated measures. Hypothesis 3: An ANOVA repeated measures test found a significant result ($F(2,36) = 49.846$, $p=.001$) on ADQ common factor 3. For all three ADQ common factors, the data in the Pair-Wise Comparison tables revealed significant differences between Time 1 and Time 2 ($p=.001$), Time 1 and Time 3 ($p=.001$), and Time 2 and Time 3 ($p=.001$).

Coefficient alpha reliability estimates for common factor 1 and Time 1 was .844, for common factor 1 and Time 2 was .826, and for common factor 1 and Time 3 was .887. Reliability estimates for common factor 2 and Time 1 was .821, common factor 2 and Time 2 was .862, for common factor 3 and Time 1 was .953. Reliability estimates for common factor 3 and Time 1 was .786, for common factor 3 and Time 2 was .706, and for common factor 3 and Time 3 was .874.

Using SPSS 25 regression analysis, the ANOVA table reported a significant effect ($F = 5.455$, $p=.002$). The overall regression was significant ($r = .364$, r-squared = .133). Competitive Greatness was the dependent variable, and the ADQ three common factors were the predictor variables.

Discussion

In a patient education educational intervention, the three ADQ common factors collected student self-report data. The three timed measurements revealed significant changes on the ADQ common factors (i.e., means scores increased respectively).

References

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MOUNT CARMEL
College of Nursing