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A Transformative Mixed-Methods Study: Legitimizing Affective Learning Outcomes Assessment

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Abstract: Tertiary educational institutions have primarily focused on assessing learning in the cognitive domain, concerned with the transmission and acquisition of knowledge and skills. Recently, educators and researchers have become more interested in the affective domain and how it affects student learning outcomes. Nursing programs' accrediting bodies are increasingly incorporating affective learning outcomes (ALOs) in their criteria. Thus, examining how nursing programs assess ALOs gives insight into integrating affective-domain learning into curricula. This mixed-methods study examined current assessment practices to determine how extensively and effectively they are employed. Learning-outcome statements for 227 undergraduate nursing programs were evaluated for references to ALOs, to determine how widespread affective assessment was and which taxonomic-levels were common. A novel taxonomy was employed to categorize each program's efforts, in hopes of identifying exemplary implementation. Analyses did not reveal any significant relationships for affective-assessment efforts with most National Center for Educational Statistics' institutional characteristics nor Carnegie classifications. There was unexpectedly, however, a statistically significant $F(3, 202) = 3.28, p = 0.02, \eta^2 = 0.05$ relationship between retention rate and ALO assessment efforts, marking the first empirical evidence linking affective-domain learning and student retention.

Keywords: *assessment, affective domain, affective learning outcomes, nursing programs, taxonomic level, student retention*

Introduction

Bloom et al. (1956) identified three learning domains—cognitive, affective, and psychomotor—each of which requires a different approach to understanding and assessing individual learning goals. The cognitive learning domain is concerned with how humans recognize and acquire knowledge and develop “intellectual abilities and skills;” the psychomotor domain assesses students' physical competencies; and the affective domain refers to the growth and maturity of feelings, attitudes, and values (p. 7). In the years since its inception, the cognitive domain from Bloom's taxonomy has become the foundation for structuring and assessing learning outcomes in colleges and universities (Nix & Song, 2020).

However, there have been increasing calls for including the affective domain, as researchers (Bolin et al., 2005; Hansen, 2019; Kilgo et al., 2015; Kovbasyuk & Blessinger, 2013; Spady, 1994; Thompson & Mintzes, 2002; Torrisi-Steele, 2022) have recognized the limitations of over reliance on cognitive-only

learning objectives to evaluate individuals. Because firstly, pedagogy concerned solely with the cognitive domain was incapable of helping students discover the value of learning for its own sake; secondly, assessments based in the cognitive learning domain might not accurately reflect students' attainment that inevitably involves values and other affective components; and finally, neglecting affective components may stunt student engagement and students' ability to retain what they learn, making it more difficult to meet cognitive objectives.

The affective learning domain, according to Krathwohl et al. (1964), refers to a collection of people's interests, feelings, attitudes, emotions, values, and the development of appreciation and adequate dispositional adjustment. It is critical to incorporate affective learning into teaching and learning practices since cognitive, psychomotor, and affective domains constantly interact for there are no pure cognitions, affects, or behaviors; any one domain is virtually inseparable from the others insofar as instruction and learning processes are concerned. As Liff (2003) claimed, social and emotional competencies contribute to an individual's behaviors and learning, which can ultimately facilitate or inhibit academic success. Further work by Johns and Moyer (2018) confirmed that attitudes and beliefs are essential for supporting healthy behaviors, and thus we may consider teaching to the affective domain as one of the best practices for addressing barriers to knowledge and skill development. At the institutional level, students' perceptions of affective learning could help educational institutions improve the effectiveness of their pedagogical practices due to the complex relationships between classroom instruction and student learning (Vu et al., 2021). Moreover, as Noland and Richards (2014) noted, affects, mindsets, and dispositions can help educators holistically gauge students' cognitive attainment, adjusting their instructional practices to more effectively help learners reach academic goals. Finally, workplaces, particularly healthcare professions, are increasingly emphasizing affective attributes or competencies largely due to the unique ethical and moral aspects inherent to the field.

The National League for Nursing (NLN), a leading organization for nursing-education programs, updated their core values to include "caring, diversity and inclusion, integrity, and excellence" (National League for Nursing, n.d.). Accordingly, the Commission on Collegiate Nursing Education (CCNE), specified nursing practices should be centered around core values such as trust, integrity, accountability, and social justice; this affective-domain construct salience directly influences baccalaureate programmatic curriculum-building (CCNE, 2018). Scholars (Fukada, 2018; Romanowski et al., 2021) also argued that the inclusion of affective development in nursing academic programs enhances holistic critical thinking, empathetic caring, and creativity in students.

Krathwohl et al. (1964) established a 5-level taxonomy, known as *Krathwohl's Affective Taxonomy*, describing an individual's process of internalizing learning objectives into five levels: receiving (as the lowest level), responding, valuing, organizing, and characterizing (as the highest level). As researchers (Frank et al., 2010; McLeod, 1991; Montalvo, 1983; Pierre & Oughton, 2007; Tittle et al., 1989) indicated, affective-domain learning outcomes are difficult to structure and assess, because an individual's attainment of attitudes, values, and beliefs, cannot be arranged hierarchically. Consequently, the existence of guidelines for the assessment or evaluation frameworks in the affective learning domain is insufficient for educators to appraise students' performance or achievement (McLeod, 1991; Miller, 2010).

To explore how nursing education programs are constructing, applying, and assessing programmatic affective-domain learning outcomes could provide all educators with helpful guidelines for implementing similar elements into general-education learning outcomes. Therefore, the purpose of this research was to examine the current practices for implementing assessment of affective learning outcomes across undergraduate nursing programs accredited by both Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) at the institutional level, and at the programmatic level by the Commission on Collegiate Nursing Education (CCNE).

Legitimacy Framework

This is not the focus of the manuscript. While there was good discussion around the framework while we presented it, it is described in its entirety by another publication in these conference proceedings. Please refer to Song, Nix, Brooks Nelson, Gibbons, Thomas, and Young in this same edition of the AALHE conference proceedings for a proper discussion on the legitimacy framework. What follows is the third instance of Dr. Song's dissertation being published and is her original work. However, a brief contextual overview *is* necessary.

Sources of Legitimacy – USDE, CHEA, and Accrediting Organizations

In this study, the sources are reflected as a three-stage hierarchical system. The U.S. Department of Education (USDE) represents authority, recognizing the soundness of institutions and programs for receiving federal funding; Council for Higher Education Accreditation (CHEA) is recognized by USDE, assuring accrediting agencies are focused on maintaining and improving education quality; finally, accreditation agencies are recognized by CHEA, conducting accreditation activities for assuring the public that institutions and programs provide quality education (Eaton, 2015). Therefore, USDE recognizes fiscal legitimacy in the form of governmental funds; CHEA grants regulatory legitimacy to accrediting organizations (e.g., regional and programmatic); and in turn, accrediting organizations themselves grant institutional or programmatic legitimacy.

Subject of Legitimacy – Nursing Programs

Nursing programs as the subject of legitimacy need to be accredited by both regional and programmatic accreditation organizations (SACSCOC and CCNE in this study). Therefore, the purpose of nursing programs' accreditation is twofold; first, to meet the standards of accreditation for academic programs; second, to "hold nursing programs accountable to the community of interest" (CCNE, 2008, p. 3). Therefore, the standards of accreditation for both SACSCOC and CCNE direct nursing programs to meet the requirements as legitimate educational programs, as well as prepare students to satisfy demands and expectations of society; as Fawaz et al. (2018) highlighted, nurses should be not only be trained in clinical aspects but also instructed to care for the human spirit, cultures, and societies.

Legitimation – Accreditation

For accreditation to become legitimate, USDE, CHEA, and accrediting organizations created standardized accrediting activities, including assessment, judgement, and decision-making based upon "a core set of traditional academic values and beliefs" (Eaton, 2015, p. 3). Institutions and programs

could be awarded (or have reaffirmed) their accreditation statuses if they are able to demonstrate appropriateness based upon the standards of accrediting organizations. In other words, their legitimacy could be substantiated and sustained. The efforts through which institutions or programs have strived to gain, retain, or reclaim accreditation is in essence, a process of legitimation. This study aimed to examine the appropriateness of the efforts of the nursing educational programs implementing affective learning assessment. While not the focus, we use the term “legitimation” and its derivatives in the following sections.

External Pressure—Society

Greenwood et al. (2017) stated that an organization needs to conform to social expectations by demonstrating appropriateness to gain legitimacy; they claimed that the perceived appropriateness is built on societal rules, norms, values, cultures, or meaning systems. As society has evolved, 21st-century challenges, such as traveling and multi-lingual demands, mandated delivery-mode shifts, attention to nurses’ mental-health concerns, specialized nursing, online nursing capacity, and healthcare equity issues (National Academies of Sciences, Engineering, and Medicine, 2021) generated social pressure, which might influence policymakers’ decision-making. Beno (2004) verified that accrediting organizations’ processes of reviewing institutional quality of student learning outcomes often experience increasing public scrutiny. Consequently, to continuously ensure sustainable improvement, USDE, CHEA, and specialized accrediting organizations take public responsibility to meet evolving demands of society and embrace the changes.

Research Design

The dissertation study conducted by Dr. Song examined the current practices of affective learning outcomes assessment among nursing programs that *had* to assess outcomes which *required* assessing affective-domain learning. In the following sections there are excerpts paraphrased from Dr. Song’s dissertation.

The study population included all baccalaureate nursing programs accredited by the regional accreditor, SACSCOC, and the specialized accreditor, CCNE. The entire population of 227 baccalaureate nursing programs were selected in this study.

Stage One: Qualitative Content Analysis for ALO Statements

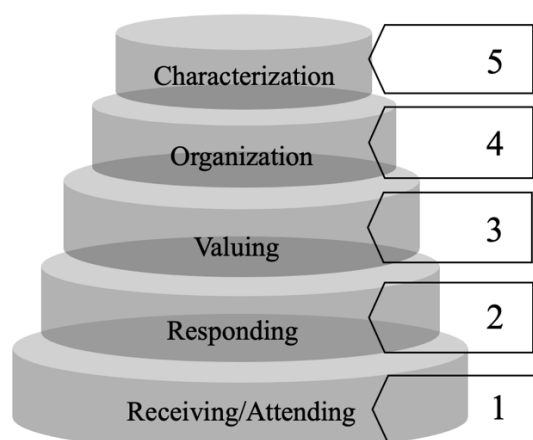
This stage collected undergraduate nursing program student learning outcomes (SLOs) statements from the official programs’ online narrative materials and analyzed those qualitative data through qualitative content analysis (QCA; Mayring, 2021). In this study, QCA was used to analyze the SLO statements and determine whether each SLO statement was an ALO or non-ALO based on the Krathwohl’s (1964) Affective Learning Action Verb List (See Appendix A). For example, one SLO statement was “Promote the profession of nursing through leadership activities in the implementation of evidence-based practice standards, safety and quality care improvement, and patient advocacy” (Abilene Christian University, 2022), according to the action verbs for affective domain the action verb, “*promote*” fell into the affective domain; accordingly, this SLO was defined as an ALO.

Stage Two: Fused Data Analysis and Song's Affective Taxonomy Development

This stage included two steps. Step one incorporated fused data analyses that transformed data from qualitative to quantitative (Bazeley, 2003, p. 26., as cited in Teddlie & Tashakkori, 2009). During this stage, an affective learning level scale (see Figure 1) was created based on the affective learning domain taxonomy (Krathwohl et al., 1964), to quantify the affective learning.

Figure 1

Affective Learning Level Scale



Note. Adapted from Krathwohl, D. R., Bloom, B. S., and Masia, B. B. (1964). *Taxonomy of educational objectives: Handbook II: Affective domain*. David McKay.

During fused data analysis, the ALO statements of the 227 nursing programs were quantized, scored, and categorized according to the newly created affective learning level scale (see Figure 1). For example, the words associated with receiving/attending (the lowest taxonomic level) were scored as "1.", based on the Krathwohl's Affective Learning Action Verb List (See Appendix A). Terms synonymous with responding (the second lowest taxonomic level) were scored as "2." This procedure continued with a score of "5." being assigned to ALO statements that were written at that culminating characterization taxonomic level.

Step two was developing an affective learning taxonomical system, Song's Affective Taxonomy. The levels of Song's Affective Taxonomy were determined by three indices in the following order:

- 1st index: The maximum assigned Krathwohl taxonomic level score from the step one
- 2nd index: The number of ALO statements
- 3rd index: The median of the assigned Krathwohl taxonomic level scores

In the case of programs that had multiple ALO statements, a median score (the 3rd index) was calculated so that each program was scored only once, overall. These three indices structured Song's Affective Taxonomy that aimed to consider the efforts of program's affective learning assessment practice using three levels, "exemplar," "good," and "average." The level of "poor" was not defined through this

taxonomy. Instead, programs which failed to share their SLOs, whose ALOs had been structured inappropriately, or did not include any ALOs, were straightforwardly defined as “poor”.

Stage Three and Stage Four: Statistical Analysis

Stage three was conducted to investigate which institutional characteristics (collected from the *College Navigator*) were related to the predictivity of exemplary ALO assessment (from stage 2). Thirteen institutional characteristics were collected from the online *College Navigator* tool and integrated into the study as independent variables. Statistical analysis (specifically ordinal logistic regression testing) determined if there were statistically significant predictors for advancing through the affective learning taxonomical system from stage two (outcome variable levels were ordered from “poor,” “average,” “good,” or “exemplar”) of practices for implementing ALO assessment.

The fourth stage of the research project conducted several Chi-square analyses and an ordinal logistic regression test to identify any significant relationships between *Carnegie Classifications* for institutions and Song’s affective taxonomic levels. Moreover, another variable, SACSCOC last reaffirmation year, was collected and included as an additional institutional characteristic for this research. The third and fourth stages derived findings that illustrated the current ALO assessment practices, highlighted the best practices, and identified some practices that needed improvement.

Findings/Results

The findings revealed the importance of assessing affective learning outcomes, but not in domains where we had originally intended to explore.

Out of the 227 institutions, 40 institutions’ SLOs were not found to assess affective domain learning, and 187 institutions had incorporated ALOs into their assessment practices, accounting for 82.4% of the total participating institutions. Out of the 1,856 SLO statements were collected from 227 institutions, 410 statements were identified as ALOs, accounting for 22.1% of the total SLOs. Additionally, 678 SLO statements were defined as neither affective learning outcome nor cognitive learning outcomes, further discussed in the manuscript, later.

Findings of Stage Two

Through fused data analysis, the 410 ALO statements were quantified based on the Affective Learning Level Scale (see Figure 1). The affective learning scores of the 410 ALOs were not normally distributed; the median level these ALOs was 3.5, accordingly, the Krathwohl’s taxonomic level was between the levels of “valuing” and “organization”.

During step 2 of this stage, according to the measures of the three indices (Table 1), the “High,” “Medium,” or “Low” level for each institution was determined.

Table 1

Measures of Index Levels

Index level	Max affective score	Number of ALOs	Median affective scores
Low (L)	1 or 2	1	> 0 and ≤ 3
Medium (M)	3 or 4	2, 3	> 3 and ≤ 4
High (H)	5	≥ 4	> 4

Based on the metrics of index levels, Song's affective taxonomy (see Table 2) was constructed, which determined the *levels of effort* for assessing student learning in the affective domain at the programmatic level. All the index levels which started with "H" or contained two "Hs" were classified as "Exemplary." The taxonomic level of "Good" included those ALOs for which the first index level was "M," and the second index level must have been "M" or better. The taxonomic level of "Average" refers to the ALOs which had as the first index level an "M," but the second index level was an "L". There were eight index levels which could not logically exist (MMH, MLH, LHH, LHM, LMH, LMM, LLH, and LLM, as highlighted in grey), since it was impossible that the max score of all affective scores of an institution (1st index) would have been smaller than the median affective score (3rd index).

Each institution's taxonomic level was categorized according to the newly established Song's Affective Taxonomy. Table 3 shows the descriptive statistics of Song's taxonomic levels for 227 institutions.

Table 2*Song's Affective Taxonomy*

Taxonomic Level	Index Level	Max Affective Score			Number of ALOs			Median Affective Scores		
		H (5)	M (3or4)	L (1or2)	H (≥ 4)	M (2or3)	L (1)	H (> 4)	M >3, ≤4	L ≥1, ≤3
Exemplary	HHH									
	HHM									
	HHL									
	HMH									
	HMM									
	HML									
	HLH									
	HLM									
	HLL									
	MHH									
Good	MHM									
	MHL									
	MMH									
	MMM									
	MML									
Average	MLH									
	MLM									
	MLL									
	LHH									
	LHM									
	LHL									
	LMH									
	LMM									
	LML									
	LLH									
	LLM									
	LLL									
Poor	SLOs not found / Inappropriate SLOs/ No ALOs									

Table 3*Descriptive Statistics of Song's Taxonomic Levels (N = 227)*

Song's taxonomic level	n (%)
Poor	40 (17.6)
Average	54 (23.8)
Good	63 (27.8)
Exemplary	70 (30.8)

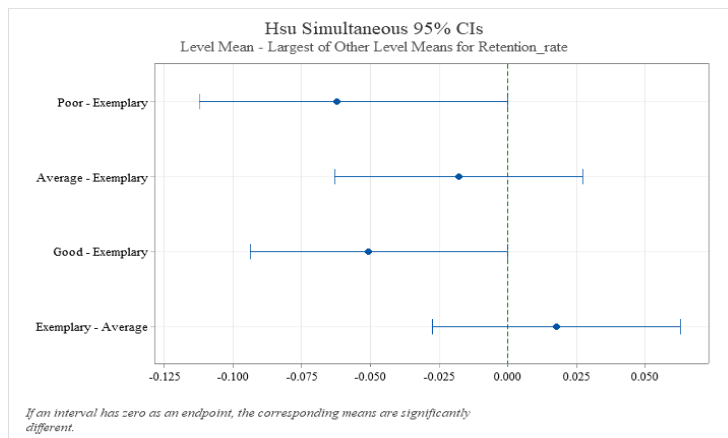
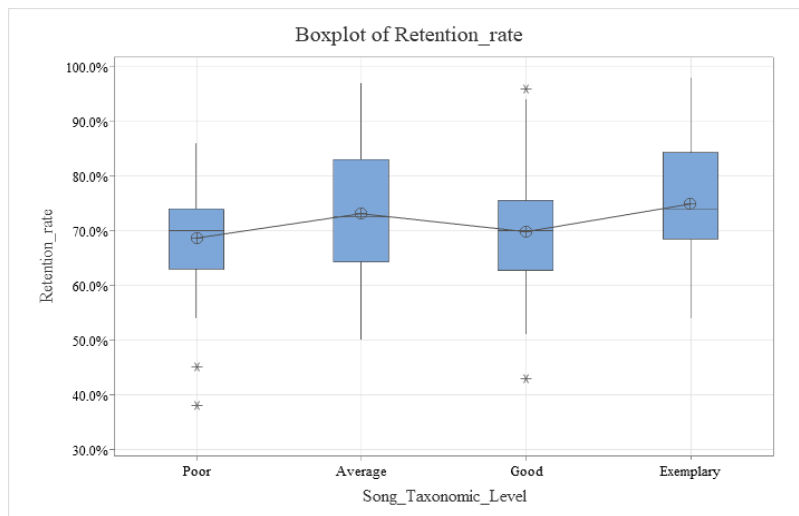
Ordinal logistic regression was used to determine whether institutional characteristics listed in the *College Navigator* tool were predictive of moving from lower Song's taxonomic levels to higher levels. The results of the logistic regression analysis revealed that no institutional characteristics other than "state" and "retention rate" were somewhat predictive. Surprisingly, retention rate was the only statistically significant ($Z = -2.31, p = 0.02$), $OR=0.06$ (95% CI: .01, .66) result.

Additional tests were conducted to investigate whether a relationship existed between Song's Taxonomic level and retention rate. In the additional analysis, retention rate was recategorized as a dependent variable and three variables were recategorized as independent: ALO percentage, Krathwohl's taxonomic level (from step one of stage two), and Song's Taxonomic level. Retention rates were normally distributed; therefore, parametric tests were appropriate; Minitab's General Linear Modeling (Appendix B) was used preliminarily to reveal that a statistically significant $F(2, 167) = 3.98, p = 0.02, \eta^2 = 0.05$, relationship existed with Song's Taxonomic level. A follow-up one-way ANOVA revealed a statistically significant, $F(3, 202) = 3.28, p = 0.02, \eta^2 = 0.05$, impact of Song's Taxonomic level on retention rate—*increased effort of assessing ALOs seemed to promote student retention!* A follow-up Hsu multiple comparisons with best (MCB) procedure indicated that the pairwise comparisons contributing to statistical significance were Poor vs. Exemplary, $t(3) = -2.62, p = 0.01$, and Good vs. Exemplary, $t(3) = -2.47, p = 0.02$. See Figure 2 for detailed graphical comparisons and Figure 3 displays a Boxplot of retention rate by Song's Taxonomic levels. The findings from stage 3 revealed that *student retention rate was identified as an institutional characteristic that was significantly related to the exemplary ALO assessment practices.*

Figure 2*Hsu Simultaneous 95% Confidence Intervals***Hsu Multiple Comparisons with the Best (MCB)****Hsu Simultaneous Tests for Level Mean - Largest of Other Level Means**

Difference of Levels	Difference of Means	SE of Difference	95% CI	T-Value	Adjusted P-Value
0 - 3	-0.0623	0.0237	(-0.1119, 0.0000)	-2.62	0.013
1 - 3	-0.0177	0.0216	(-0.0628, 0.0274)	-0.82	0.414
2 - 3	-0.0506	0.0205	(-0.0935, 0.0000)	-2.47	0.020
3 - 1	0.0177	0.0216	(-0.0274, 0.0628)	0.82	0.414

Individual confidence level = 96.21%

**Figure 3***Boxplot of Retention Rate by Sogn's Taxonomic Levels*

Ordinal logistic regression using the Song's Taxonomic level as dependent variable was conducted using *Carnegie Classification System* categories describing the institutions. For this analysis, no interval data were used. An institution's *Carnegie Classification* categorization was not significantly related to the level of its ALO assessment practices.

Discussion/Recommendations

Through the research activities, 678 SLO statements (accounting for 36.5% of the total SLOs) were identified as neither affective nor cognitive SLOs. These SLOs were categorized as three types of inappropriately structured SLOs. For the first type, SLOs included affective action verbs yet led cognitive content, for example, *"Integrate knowledge and skills in leadership, quality improvement, and safety in providing high quality health care."* The second type, SLOs structured with cognitive action verbs (developed based on Bloom's taxonomy) leading affective content, such as *"articulate the value of lifelong learning."* The last type was comprised of the SLOs which were led by either affective or cognitive action verbs and contained a mixture of both affective and cognitive, for example, *"integrate knowledge, skills, and values from liberal studies with nursing science...."*, was led by an affective action verb, "integrate", however, included cognitive contents, "knowledge, skills" as well as affective contents, "values...". These SLOs might create challenges to instructors to develop effective assessment plans or select appropriate assessment tools that accurately reflect the programs' intended goals.

Moreover, these SLOs implied that assessment practitioners might be challenged by implementing ALO assessment practices, as they might have limited cognitive abilities to distinguish between cognition and affect; for even though they seemed to demonstrate awareness and willingness of implementing ALO assessment, the efforts fell short according to this study's criteria. This further substantiates the complex intricacies and potential missteps through the process of legitimating the assessment of learning in the affective domain.

Therefore, to help academic programs promote accreditation compliance, programmatic accreditors might need to meliorate efforts to provide supportive resources. For example, the American Association of Colleges of Nursing (AACN; AACN, 2008) provided the Essentials of Baccalaureate Education (such as professionalism, autonomy, human dignity, integrity, and social justice), specifying definitions for each term as well as sample content to help program directors better understand and implement each. Additional detailed guidelines from specialized accreditors are also needed to announce assessment instruments; model assessment plans might be helpful. Other supportive resources might include online discussion forums that allow professionals to communicate and accept feedback from institutions and programs, sharing exemplary ALO assessment practices during accreditation processes, and finally providing accreditation consultant services.

The accreditors' role is to serve as a critical gatekeeper for ensuring quality and retaining eligibility of their accredited higher education institutions and programs; as Kumar et al. (2020) stressed, accreditation is a powerful tool to enhance excellence and quality. Therefore, the goals of accreditors should be consistent with institutions' goals and programs' expectations. The efforts that accreditors have made could also promote the processes of organizational legitimacy through supporting

programs and institutions who have already addressed the issues of interpreting accreditation principles and standards with respect to assessing affective domain student learning outcomes. Recognition or awards of exemplary practices might deserve consideration, particularly from the specialized accreditors who are actively promoting teaching and assessing to the affective learning domain.

Student retention rate was identified as an institutional characteristic significantly related to exemplary ALO assessment practices; in other words, a student retention rate might have predicted the taxonomic levels of ALO assessment practices, or vice versa. Perhaps if institutions made more efforts toward cultivating students' affective competence, then we might postulate that the staff doing the work would be perceived as more caring; caring professionals may in turn have established meaningful relationships with students. Intuitively, meaningful relationships may be related to establishing a heightened sense of belonging, which has recently been empirically connected (Pedler et al., 2022) to increased student retention. Hence, from an abductively logical standpoint, this finding may somewhat strengthen the unexpected findings that caring professionals may have made the greatest impacts, individually.

This study includes the first empirical evidence to substantiate a link between affective domain learning assessment and an increased student retention rate. This specific finding could also be used to support institutions and programs' commitment towards promoting affective domain learning. As the National Institute for Learning Outcomes Assessment team recommended, institutions need to purposefully focus on more effectively using assessment results to improve teaching and learning (Gannon-Slater et al., 2014).

Additionally, institutional commitment dictates that more resources should be allocated to support professional development, particularly to develop assessment practitioners' cognitive knowledge and skills focusing on ALO assessment practices. Moreover, reinforcing communications with accreditors might also better help institutions and programs more accurately interpret accreditation regulations and standards. Following this recommendation, the efforts that institutions and programs make could determine the future levels of affective-domain-learning legitimacy.

The findings of the study explored the current status of ALO assessment practices across undergraduate nursing programs accredited by SACSCOC and CCNE; most saliently, analysis revealed a relationship between student retention and programmatic efforts toward assessing affective domain learning. However, due to the limitations of this study's *publicly-available-data* focus, no understanding of *how* those exemplars' implementation or assessment practices had enabled them to achieve the exemplary level on the Song's Affective Taxonomy was ascertained. A future study could include interviews with accreditors, program directors, faculty members, nursing students, graduates who have already entered workplaces, and perhaps employers who have hired the graduates. Obtaining perceptions regarding affective domain learning from different perspectives, including accreditation agencies, education institutions, and society at large, might help institutions and programs implement best practices for assessing student learning outcomes and therefore promote student retention. In future studies such as recommended, institutions could locate missing links.

Future researchers may consider focusing on ALO assessment practices of programs or institutions accredited by other regional and programmatic accreditors. Similar ALO research across different regional and programmatic accreditors' institutions could provide a more balanced overview regarding SLO/ALO assessment practices nationwide. The findings of such future research efforts may serve as references for policymakers and regulatory organizations to improve policies, regulations, and standards, in order to meet the increased complexities of an increasingly globalized and interconnected society. Finally, the overview of ALO assessment practices nationwide could help institutions discover the gaps, and perhaps more effective quality enhancement plans could be developed and implemented to meet accreditation compliance requirements and benefit institutional sustainability over the long term.

In the live presentation, we used the handouts (Rajshahi University, 2023) as an activity that was quite popular and precipitated rich discussion later. You may use Dr. Song's Taxonomy (published here first!) to rate your own nursing program's efforts.

The most severe limitation of this study, in our estimation and after presenting it to our wonderful audience, was that we used institutional retention rate rather than the individual nursing program's retention rate. We plan to get that data in another research project, and thanks for making us aware of it existing!

Author's Declaration

This presentation and manuscript are the first published excerpts from Dr. Song's dissertation. Dr. Nix helped with additional analysis and edited the document. While it may seem overbearing to have this much of a literature review, it is our perception that practitioners are not assessing affective learning outcomes. This study looked at nursing programs that had to assess affective learning outcomes for their specialized accreditor. The programs were also accredited by the regional accreditor known as SACSCOC (Southern Association of College and Schools Commission on Colleges for any newcomers to the profession). Since we believe a literature review is necessary, this is the second instance of Dr. Song's dissertation being published (the abstract in this manuscript being the first). We have paraphrased and re-paraphrased the sections from her dissertation. Unless explicitly noted, nothing is intentionally directly lifted. However, Dr. Song's dissertation has never been published, despite being publicly available in her degree-awarding institution's repository. She has presented various aspects of the study. Here, our attention is on the affective learning domain, how learning in this unknown realm is assessed, and how efforts to do so *may* influence student retention rate.

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Appendix A: Affective Action Verb List

Affective Domain

This list of action verbs can be used in the development of program-level outcomes or course-level learning objectives in the affective domain. It is adapted from Kathy V. Waller's "Writing Instructional Objectives" guide¹. The "[developmental] affective domain is concerned with changes (growth) in interests, attitudes and values. It is divided into five major classes arranged in hierarchical order based on level of involvement (from receiving, to characterization by a value)" (Waller, n.d., p.4). Each column includes (1) category from Krathwohl's (as cited in Waller, n.d.) affective domain taxonomy (2) definition of the category, and (3) action verbs associated with that category.

Receiving	Responding	Valuing	Organization	Characterization
Attend to stimuli	React to stimuli	Attach significance to ideas	Build value system	Internalize values that guide behavior
Ask Acknowledge Attend (to) Follow Listen Meet Observe Receive	Agree Allow Answer Ask Assist Attempt Choose Communicate Comply Conform Cooperate Demonstrate Describe Discuss Display Exhibit Follow Give Help Identify Locate Notify Obey Offer Participate (in) Present Read Relay Reply Report Respond Select Try	Adopt Aid Care (for) Complete Complement Contribute Delay Encourage Endorse Enforce Evaluate Expedite Foster Guide Initiate Interact Join Justify Maintain Monitor Praise Preserve Propose Query React Respect Seek Share Study Subscribe Suggest Support Thank Uphold	Anticipate Collaborate Confer Consider Consult Coordinate Design Direct Establish Facilitate Follow through Integrate Investigate Judge Lead Manage Modify Organize Oversee Plan Qualify Recommend Revise Simplify Specify Submit Synthesize Test Vary Weigh	Act Administer Advance Advocate Aid Challenge Change Commit (to) Counsel Criticize Debate Defend Disagree Dispute Empathize Enhance Excuse Forgive Influence Motivate Negotiate Object Persevere Persist Praise Profess Promote Promulgate Question Reject Resolve Seek Serve Strive Solve Tolerate Volunteer (for)

Appendix B: General Linear Modeling, Retention Rate Versus Five Variables

Method

Factor coding (-1, 0, +1)
 Rows unused 25

Factor Information

Factor	Type	Levels	Values
Song_Taxonomic_Level	Fixed 4		Poor, Average, Good, Exemplary
State	Fixed 11		AL, FL, GA, KY, LA, MS, NC, SC, TN, TX, VA
Recoded Campus Setting	Fixed 3		Rural, Suburb, City

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
S-F Ratio	1	0.20716	0.20716	20.26	0.000
A-Net Price	1	0.11904	0.11904	11.64	0.001
Song_Taxonomic_Level	3	0.07953	0.02651	2.59	0.054
State	10	0.21096	0.02110	2.06	0.030
Recoded Campus Setting	2	0.13394	0.06697	6.55	0.002
Error	184	1.88168	0.01023		

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.10112	28.46%	21.85%	13.75%
6			