Development and Pilot Testing of a Multidimensional Learning Environment Survey for Nursing Students

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Background & Significance
The learning environment has a major role in determining nursing students’ academic inspiration, learning, and achievement with student perception having significant influence on student outcomes.

Understanding the complex and dynamic interactions among the social, cultural, relational, digital/virtual, and academic components that create the learning environment offers an opportunity to address issues.

Development of the VALES began as an interdisciplinary effort to understand perceptions of, experiences and satisfaction with the shared learning environment of medical students, resident physicians, and nursing students at one academic medical center.

Key areas for evaluation were selected for aligning data points from medical student/resident surveys, and items either developed by the researchers or adapted with permission from similar existing instruments for use with nursing students.

Purpose: To describe development and pilot psychometric testing of the VUSN Annual Learning Environment Survey (VALES) to explore student perceptions of multiple learning environment dimensions.

Methods
The learning environment was operationalized as the curriculum, implementation, faculty, and setting, including classroom, clinical and incorporation of technology, and was differentiated from specific course and faculty evaluations.

Anonymous survey items included 5 point, Likert-type questions and open-ended questions for mixed-method analysis.

After IRB approval, the instrument was then piloted with pre-licensure, accelerated, second degree students (n=27, response rate = 18%).

Participants were asked not to use specific names in narrative description experiences.

Basic demographic information was also collected.

VALES Components

<table>
<thead>
<tr>
<th>Satisfaction with the Learning System</th>
<th>Faculty</th>
<th>Preceptors</th>
<th>Staff Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism</td>
<td>Learning Culture</td>
<td>Work-Life Balance</td>
<td>Learning Technologies</td>
</tr>
<tr>
<td>Diversity &amp; Inclusiveness</td>
<td>Development Opportunities</td>
<td>Physical Environment</td>
<td>Moral Distress</td>
</tr>
</tbody>
</table>

Results (Content Validity)

5 Experts
- Item-content validity index (I-CVI) ranged from 0.60-1.00
- CVI values for the 12 domains ranged from 0.80 to 1.00
- Average CVI for the entire measure was .94

5 Students
- Item-content validity index (I-CVI) ranged from 0.20-1.0
- CVI values for the 12 domains ranged from 0.77-1.00
- Average CVI for the entire measure was 0.92

Subsequently, minor word changes were made to the low scoring items based on expert and student feedback for understanding.

Results (Internal Consistency of Domain Scores)
Most Cronbach's alpha values were >= 0.70.

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<tr>
<td>Physical Environment</td>
<td>0.57</td>
<td>0.78</td>
<td>0.78</td>
</tr>
<tr>
<td>Preceptors</td>
<td>0.93</td>
<td>0.83</td>
<td>0.83</td>
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<tr>
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<td>0.94</td>
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</tr>
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<td>Work-Life Balance</td>
<td>0.83</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>Diversity &amp; Inclusiveness</td>
<td>0.91</td>
<td>0.76</td>
<td>0.76</td>
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<td>Physical Environment</td>
<td>0.57</td>
<td>0.81</td>
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Results (Pilot Instrument)

Sample demographics (N=27)
- 23 (85%) Female, 3 (11%) Male, 1 (4%) Prefer not to answer
- Ethnicity
  - 1 (4%) Asian
  - 23 (85%) Caucasian
  - 2 (7%) Hispanic
  - 1 (4%) Prefer not to answer
- Median age 25 years (min=22, max=37)

Implications
- Data can assist nursing schools in understanding their unique learning environment in order to recognize effectiveness and excellence, and target areas for improvement.
- Regular, systematic collection and review of benchmark, comparative data regarding the learning environment across institutions/learner populations can help identify issues and trends critical to the future of nursing education.