The Effects of Task Characteristics and Cognitive Loading on Clinical Examination Performance in Nursing Students

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Purpose
The purpose of this study was to examine the task characteristics of and cognitive loading that occurs during OSCE administration among third-year nursing students who are seeking a baccalaureate in nursing and to explore the association between the task characteristics, cognitive loading, and clinical examination performance.

Methods
A correlation study design was employed. A total of 118 nursing students who sat for the clinical examination were recruited. The data were collected in January 2015. Students’ ages ranged from 21 to 31, and the mean age was 21.68 (SD =1.23). The majority of students were female (78.05%). The structural equation modeling (SEM) approach with partial least squares (PLS) was used in the data analysis.

Results

![Diagram showing the relationship between task characteristics and OSCE performance]

Task variety and significance

Task autonomy

Task identity and feedback

Task cognitive loading

OSCE performance

The results of this study indicated that “task identity and feedback from job” and “task autonomy” had a significant negative effect on task cognitive loading, respectively. In contrast, “task variety and significance” had a significant positive effect on cognitive loading, and cognitive loading had a significant negative effect on student’s OSCE performance score.

Conclusion
We found that increased task variety and significance and reduced task autonomy, task identity, and feedback during OSCE were associated with increased task cognitive load, which, in turn, reduces OSCE performance. We suggest that skill examination begin with the presentation of a simple strategy (low element interactivity) and gradually work up to more complex tasks.