**Effectiveness of Blended Learning for Resident Education in Neurology: Experience from Movement Disorder Course**

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**BACKGROUND**

Rapid advances in Information Technology have enabled the use of web-based learning methods to supplement traditional methods using a Blended learning methodology. These methods of learning have been used effectively in stroke training of prehospital providers (Gordon 2005) and acute medical management for medical students (Shah 2008). Blended learning had been a viable and useful tool for residents in psychiatry, obstetrics and gynecology, ENT, gastroenterology and dermatology. The objective of our study was to assess the feasibility and utility of blended learning in neurology residency training.

**METHODS**

Neurology residents participated in a 5-week blended learning course including traditional face-to-face weekly lecture and online materials using Canvas learning management system. Coursework included weekly modules with required and optional reading material, task assignments (such as mind map, memory matrix), formative quizzes, discussion forums, and podcast. Course performance was evaluated with blinded pre-test and post-test questionnaire.

**LESSONS LEARNED**

- Incompatibility issues with various platforms
- Large video sizes difficulty loading
- Initial resistance to adopt to a new learning style (dependency on spoon feeding)
- Challenging for residents on busy rotations.
- Unclear role (credit or practical value) towards resident’s assessment.
- Initial resistance to adopt to a new learning style
- Large video sizes difficulty loading
- Lack of skills learning (focus on knowledge base)
- Deadline routine.

**RESULTS**

15 of 16 residents completed pre-tests and 11 of 16 completed post-tests. There were 5777 online page views over 5 weeks (mean 386/resident, range 32-1319). Residents made 167 submissions with timely submission rate of 55% (CI 37-73, range 0-100%), completed 5 weekly quizzes (mean score 65.9%, range 58.9-71.3%). There were 86 responses posted for 12 discussion topics.

**CONCLUSIONS**

Blended learning is a feasible and effective approach for training neurology residents. Online tracking allows formative assessment and detailed performance analysis. Factors influencing resident participation and adoption require further study.