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An undergraduate point of care ultrasound curriculum: A case study in the development of an objective assessment tool using a modified Delphi technique

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Purpose: Many medical schools across North America are incorporating point of care ultrasound training (PoCUS) into their curriculums. Memorial University of Newfoundland shares this enthusiasm for the introduction of PoCUS into its own undergraduate medical program. Like any newly introduced concept or skill, the addition of PoCUS in medical school curricula necessitates evaluation. The evaluation of medical students must include objective, reliable and validated assessment tools, as they are necessary to ensure a standard, general level of competence is attained. This project presents the approach necessary and difficulties encountered in creating and testing an objective assessment tool. **Method:** This project involved three phases, the first of which was the development of the tool itself. We used Blooms three domains of learning as the theoretical basis for the proposed approach to teaching PoCUS at an undergraduate level. Purposive sampling by key informants was used to select an expert panel appropriate for assessing PoCUS skills. A survey was distributed to these experts asking for their opinion on a "Point of Care Ultra Sound Assessment Tool" comprised of a global rating scale (GRS) and exam specific checklists. A modified Delphi technique was used to obtain expert consensus on items to be included in the assessment tool. The Delphi technique requires a panel of experts to complete several rounds of an opinion eliciting survey. **Results:** Agreement on the final tool for assessing ultrasound competency in undergraduate medicine was attained following three rounds of surveys. **Conclusion:** Using a modified Delphi technique we generated an objective assessment tool for undergraduate POCUS learners with content validity supported by the panel of expert PoCUS practitioners. Currently, in phase two of this research program, this tool is being testing to ensure it is a valid means of assessing PoCUS competency in undergraduate medical curricula. In a time when many medical schools are changing their curriculums to coincide with a changing national exam, this technique can be modified and used to create further objective assessment tools.