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Progress Testing: A tool for Integrated Learning and Assessment in Undergraduate Dental Education

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Abstract 2C: Use of Progress Testing as a Tool for Integrated Assessment and Learning in Dental Education

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Abstract:

Aim: To evaluate the use of progress testing as a major summative assessment and learning tool in an undergraduate dental programme in the United Kingdom

Objectives: To provide repeated and comparable integrated assessments across the full range of learning outcomes expected from students on completion of the dental education programme and testing the analysis, synthesis and application of knowledge as distinct from simple factual recall.

Methods: Data were collected for Progress Tests conducted from 2007-2017 involving 11 cohorts of Bachelor of Dental Surgery (BDS) students in 20 sittings. The data were analysed in SPSS version 22.0 (SPSS Inc., Chicago, IL, USA) and R to identify the differences in the performance of students in successive years. Internal consistency of test scores was calculated using Cronbach's Alpha. Analyses were used to identify variations in total scores, "correct", "incorrect" and "do not know" responses to evaluate growth in applied dental knowledge based on demographic factors.

Results: Data analysis was undertaken for a total of 59 distinct test occasions over 11 years. Overall reliability of dental progress tests was acceptable, $\text{Alpha} = 0.75$ ($\text{SD} \pm 0.09$). The dental knowledge of students increases steadily over successive years as expected. The scores and correct responses mirror each other while, "do not know" responses decrease steadily. However, the incorrect responses stay relatively stable. Differences in the performance of students based on age, educational background, ethnicity and any known disability were also evaluated.

Conclusion: Progress testing is a unique assessment tool which permits valid and reliable longitudinal assessment of growth in applied knowledge across the curriculum. With careful planning and blueprinting, the test may also serve to encourage deep learning which is relevant to future clinical dental practice. There is merit in considering the use of progress testing in undergraduate as well as postgraduate dental programmes to assess growth in applied dental knowledge.