A systematic review investigating active learning in dental education
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INTRODUCTION
Oral Pathology is typically taught using traditional didactic teaching methods. Although the acquisition of factual knowledge is necessary, it is not enough for learners in dentistry to fully understand the complexities involved in this area of study. Active Learning has been shown to be an effective method of teaching, and therefore incorporating it into oral pathology seminars may benefit students as it will allow them to fully grasp the complexity of oral pathology as a discipline and integrate this knowledge into their practice.

The purpose of this study is to evaluate whether active learning is being incorporated as a teaching methodology in undergraduate dental courses at any level, but specifically in oral pathology and radiology, and if it is, the impact this has on the students’ learning.

Active learning can be defined as:
meaningful activities in the classroom which engage students in the learning process, giving students control over their knowledge procurement.

METHODS
For this systematic review, four databases, MEDLINE, ERIC, SCOPUS, and EMBASE will be searched to determine if active learning is being utilized in dental or medical undergraduate courses.

This review is being conducted in accordance with Best Evidence Medical Education (BEME) review guidelines and will be submitted to BEME for publication.

Studies included in the review met the following criteria:

- Activities must be within the classroom
- Activities must be meaningful and allow students to reflect upon their learning
- Students must be engaged in the learning process

RESULTS
A search was done of both MEDLINE and ERIC on September 1st, 2017. A second search was done November 10, 2017 for EMBASE and SCOPUS. All authors reviewed titles and abstracts and those that meet the inclusion criteria will be included in the next phase of the review.

Current Progress on Systematic Review

- Select databases and run search
  - 537 Results from MEDLINE
  - 62 Results from ERIC

- Identify duplications
  - 37 articles removed from MEDLINE and ERIC

- Identify non-English texts
  - 9 articles removed from MEDLINE and ERIC

- Identify non-relevant texts
  - 498 articles removed from MEDLINE
  - 40 articles removed from ERIC

- Next steps
  - Review titles and abstracts from SCOPUS and EMBASE
  - 62 Results from ERIC
  - 498 Results from MEDLINE
  - 40 articles removed from ERIC

- 22 full articles will be reviewed from ERIC

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CONCEPTUAL FRAMEWORK
A conceptual framework that is process and engagement oriented and influenced by Activity Theory was developed for this systematic review. This framework is not hierarchical, but a categorization of active learning techniques that can be used in the classroom.


This framework will allow the authors to determine the percent of articles that fit within each category, as well as how many articles utilize more than 1, and/or more than 2, of the categories.

NEXT STEPS
The next steps for the systematic review include:
1. Registering the protocol with BEME
2. Searching through SCOPUS and EMBASE for inclusion of articles and to remove duplicates
3. Reading titles and abstracts from SCOPUS and EMBASE
4. Reading full articles from all four databases
5. Determine which articles met the criteria for inclusion in the review
6. Determine which category included articles fall within
7. Analyze the data gathered to determine how active learning is utilized in medical/dental courses and the impact on student learning

REFERENCES