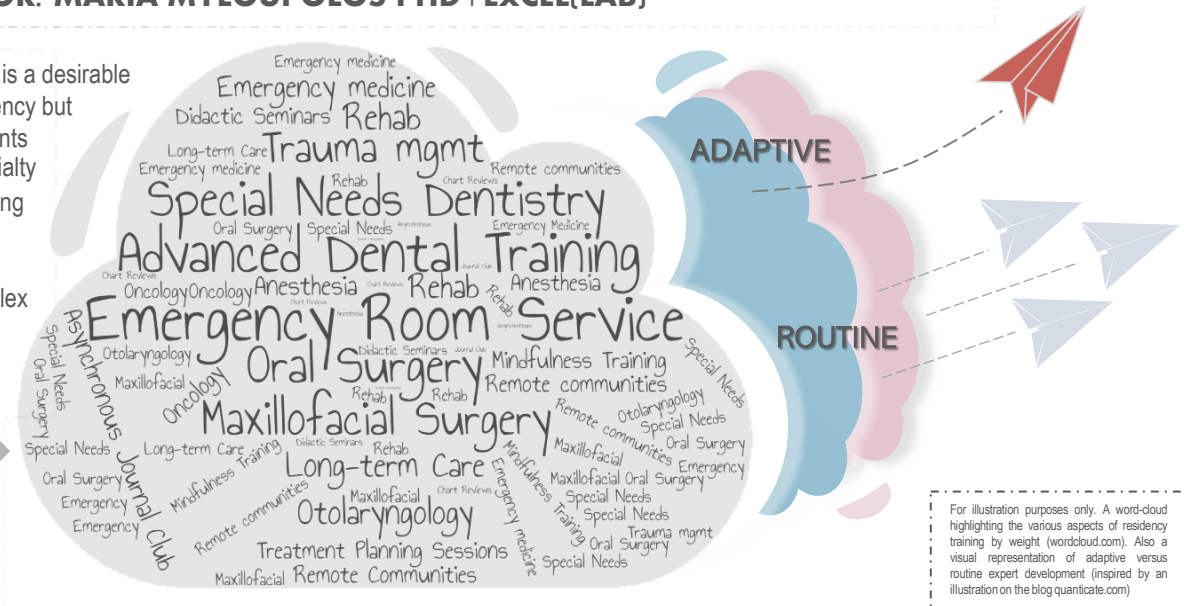
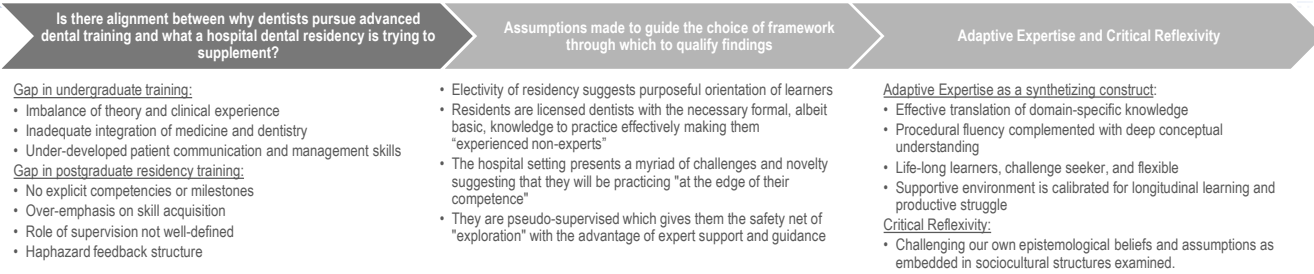


Adaptive Expertise in Dentistry: A Familiar Construct, in an Unfamiliar Niche

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ABSTRACT

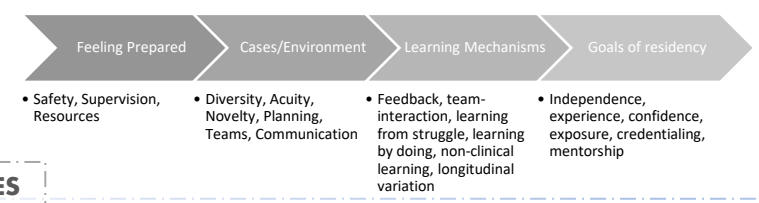
The delivery of effective patient care is contingent on the accessibility and translation of domain-specific knowledge. Adaptive expertise is a desirable construct in the training of clinicians in today's increasingly complex clinical environments. Adaptive experts possess the procedural fluency but balance it with conceptual understanding, knowledge integration and innovation. Learning sciences have demonstrated that environments calibrated for longitudinal learning and productive struggle are supportive of adaptive expertise development. Dentistry, a surgical specialty concerned with the preservation of oral health, remains largely unexplored in learning sciences literature. Dentistry presents an interesting subject of study because it requires a developed knowledge of medical, biomaterial, and prosthetic sciences, fine manual dexterity, as well as unique communication and management skills. Dental residencies for general practice are typically elective after undergraduate training and often take place in the relatively foreign hospital setting, with the added complexity of managing multi-co-morbidities, complex dento-facial traumas and severe space infections. Here we aim to qualitatively elucidate the characteristics of learning taking place in a dental residency (Mount Sinai Hospital – Toronto) borrowing from the social constructivist tradition and using adaptive expertise and reflexivity as synthesizing lenses. The following chart describes the rationale.



For illustration purposes only. A word-cloud highlighting the various aspects of residency training by weight (wordcloud.com). Also a visual representation of adaptive versus routine expert development (inspired by an illustration on the blog quanticate.com)

PROGRESS | DISCUSSION

12 former residents were interviewed. Initial and focused coding of transcripts completed and early conceptual categories developed. We aim to further conceptualize categories in terms of learning opportunities and outcomes. It is apparent from the data that further interviews of remaining invited residents (6), and possibly program administrators, may be important to reach theoretical saturation. While the analysis is incomplete, our goal was to showcase progress in synthesis. Ultimately, we aim to elucidate what the environment is doing in terms of the residents' development utilizing published literature on adaptive expertise. This in turn will inform curriculum reform enabling us to be more purposeful in ensuring learners find those opportunities and also enable faculty to create them. The following chart illustrates current categories and codes emerging from data.



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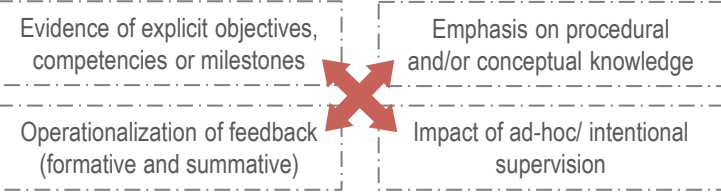
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RESEARCH AIM

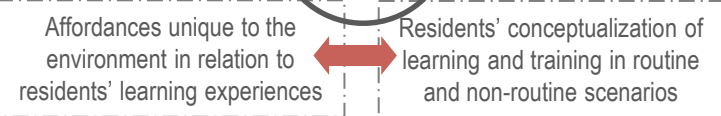


EVALUATION

PLANE

RESEARCH

PLANE



METHODOLOGY

- Social Constructivist, Grounded-Theory Study
- Research Ethics approval obtained from UofT Research Ethics Board.
 - 20 Former Hospital Dental Residents recruited (by invitation via e-mail) to complete a semi-structured in-person, or phone interview.
 - Theoretical and Criterion Sampling Orientation.
 - Iterative Refinement of Interview Guide.
 - Combined inductive and deductive coding of interview transcripts; Constant comparative analysis
 - Emergent themes distilled into categories with theoretical saturation in mind (in process)