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Meaningful integration of educational technology in postgraduate programs: Problem, solution, and results

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1 | PROBLEM

Social distancing and gathering restrictions triggered by the COVID-19 pandemic[1] have provided a unique opportunity to reshape our traditional educational approach. To assure academic continuity in advanced postgraduate education in prosthodontics, the use of technology became a top priority.[2] In the field of prosthodontic programs, postgraduate residents experience multiple settings: didactic, preclinical, laboratory, and clinic, and transitioning all activities to a virtual experience was a challenging task.

2 | SOLUTION

To assure continuity in a meaningful way, multiple perspectives were considered and a Transitional Academic Plan (Figure 1) was compiled. The plan supported three major pillars of interest: (1) educational continuity, (2) faculty/residents' interaction, and (3) morale.

The core curriculum courses of the advanced education program were redesigned to integrate best practices of online teaching: focused content, clear communication,
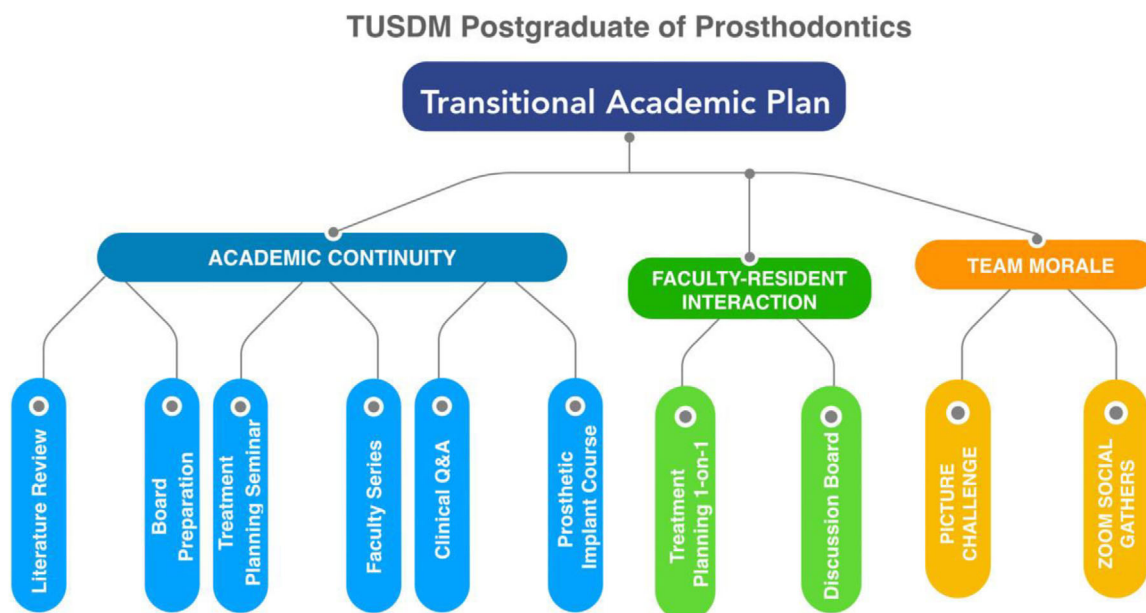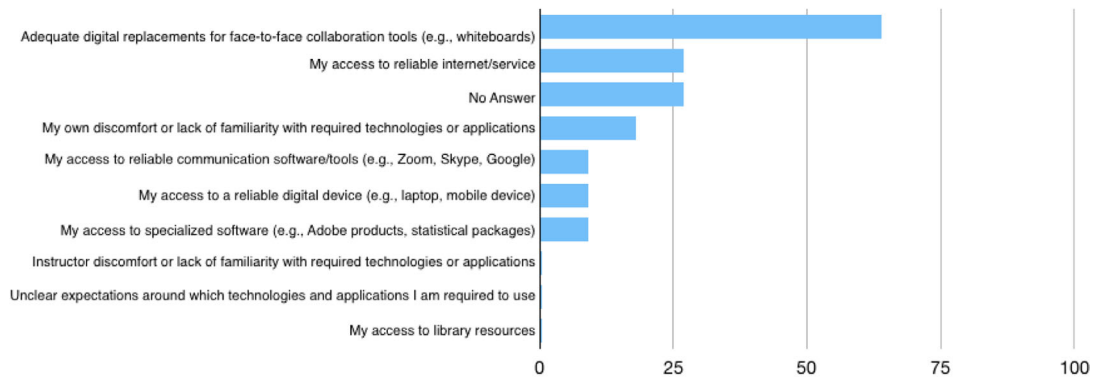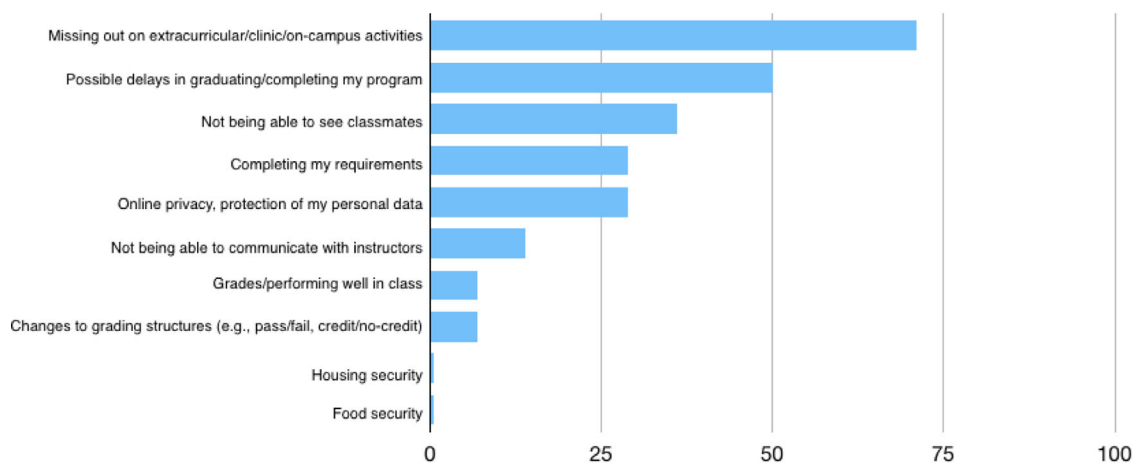

FIGURE 1 Flowchart of Postgraduate of Prosthodontics Transitional Academic Plan

Which of the following technological issues have been a challenge for you since the transition to remote learning? (Check all that apply.)

What are your biggest concerns with the transition to remote learning so far? (Check all that apply.)

Which of the following learning/educational issues have been a challenge for you since the transition to remote learning? (Check all that apply.)
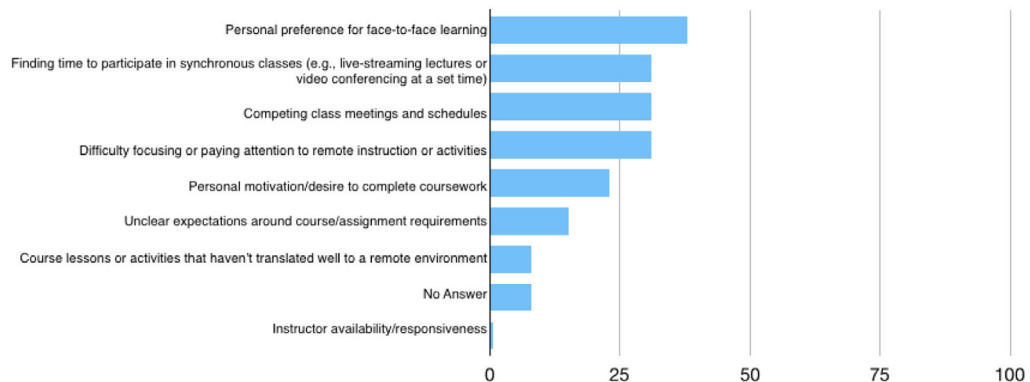
FIGURE 2 Students Survey 8 weeks after implementation

the opportunity for collaboration, and assessment methods.

The emotional wellbeing of the residents was considered a priority. By employing a myriad of communication platforms, residents were encouraged to share personal stories, pictures, successes, and difficulties daily.

The humanistic environment was enriched by designing challenges (individual and team) and online social activities to facilitate a team-based approach and increase morale. Surveys were carried out to select the preferred topics to discuss and evaluate the residents' perception (Figure 2).
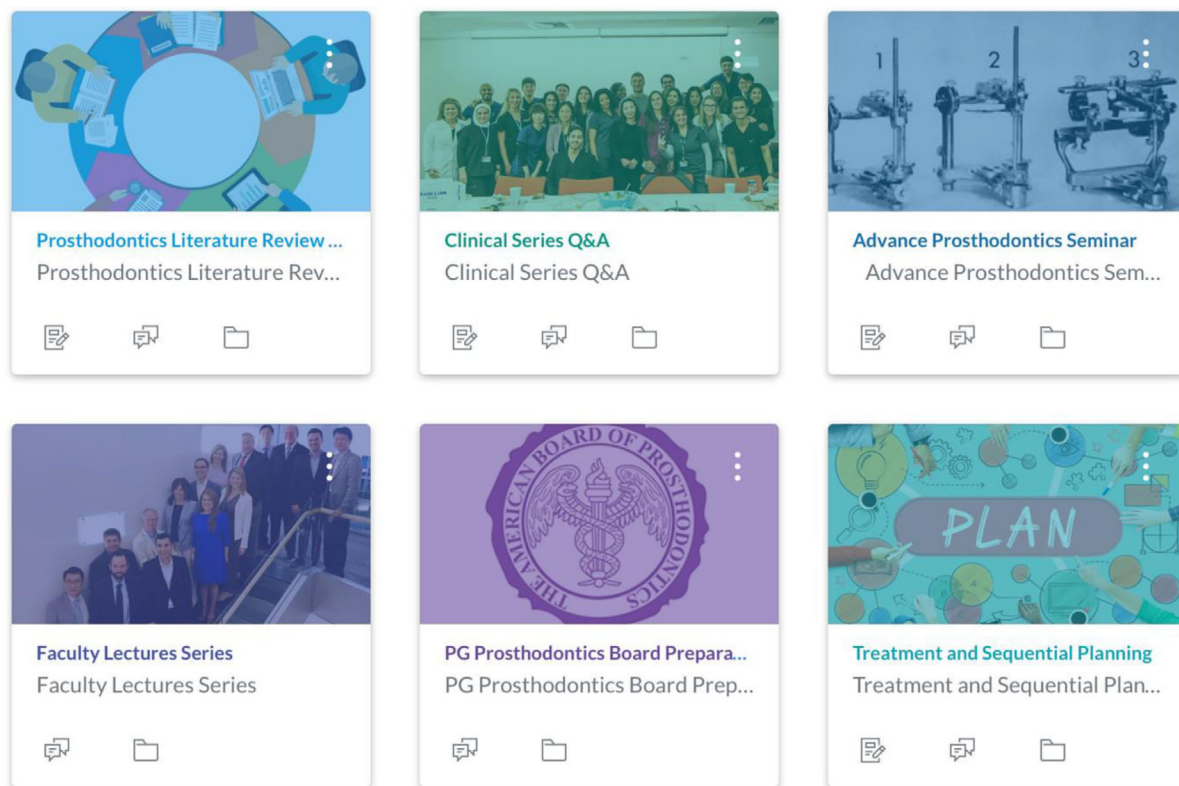
Dashboard

FIGURE 3 Student's view by Canvas

3 | RESULTS

3.1 | What went well?

The combined efforts and creative approaches to preserving academic continuity were well received by residents and the majority of faculty. As a result, the program was able to migrate all of the core courses to a digital platform, supported by Canvas (Figure 3). To foster critical thinking, especially for first-year and second-year residents, interdisciplinary cases were discussed in a step-by-step sequence. Major pitfalls in clinical treatment were evaluated and solutions to achieve optimization of clinical time, improvement in case management, and interprofessional interactions were addressed. Integrating residents from all the 3 classes allowed the junior residents to leverage the seniors' experience and the seniors' an opportunity to teach back.

3.2 | What did not go so well?

The major challenge faced was to design a strategy to compensate for the limited hands-on clinical training, as some of the residents were engaged in the emergency services.

A barrier in the plan execution was to train faculty members with the technological tools and platforms available to perform the described tasks, as most faculty members are digital immigrants.[3] Some required individual training, as their level and knowledge with the platforms was limited. Access to reliable internet connection was the most repeated concern for both students and faculty.

3.3 | Lessons learned

Training faculty on available educational and communicational platforms, designing flexible online courses with both synchronous and asynchronous components, as well as implementing effective and inclusive communication avenues, teamwork, creativity, and resiliency were key elements for a successful transition to online education. Remote learning is currently the main avenue to assure academic continuity. Therefore, implementing a dynamic and customizable teaching environment is paramount to foster an effective, sustainable, and superior learning experience.[4]

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