

Impact of Gamification Techniques on Surgical Trainee Engagement with Workplace-Based Assessment

Angela E. Thelen, MD; Zoe Nepomnyshy; Ayda Qureshi; Mary Schuller, MS; Xilin Chen, MPH; Rebecca Gates, MD; Kayla M. Marcotte, MS; Andrew E. Krumm, PhD; Brian C. George, MD, MAEd

Center for Surgical Training and Research, Department of Surgery, University of Michigan, Ann Arbor, MI

Background

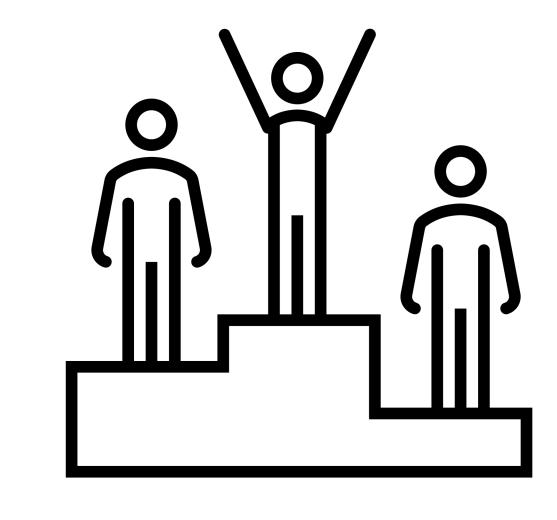
- Consistent and accurate evaluations of surgical trainee performance are increasingly important
- Workplace-based assessment (WBA) tools are helpful platforms to evaluate performance frequently
 - Rely heavily of trainees and faculty initiating assessments in real time
- Engaging surgical residents and faculty with WBA tools is challenging
 - Points, leaderboards, badges, competition
- - Gamification techniques have successfully increased trainee engagement with health professions education including simulation and online curricula

• Gamification = process of adopting game attributes to non-gaming contexts

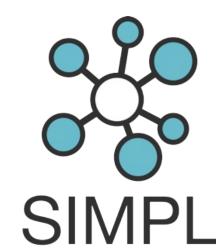
• These techniques have never been applied to assessment

Study Aim

To determine if gamification techniques can improve surgical trainee and faculty engagement with WBA tools



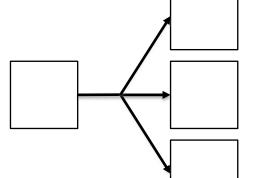
Study Design



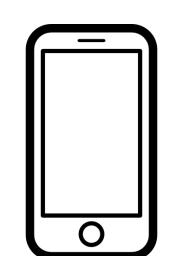
General surgery residency programs in the SIMPL Collaborative included



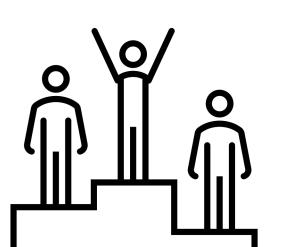
Programs divided into 3 cohorts:



- 1. Weekly Intervention
- 2. Biweekly Intervention
- 3. Control



Operative evaluations collected via the SIMPL smartphone application



Intervention: Leaderboards of Top 5 most active resident and faculty users sent to intervention programs



Engagement with SIMPL assessment app tracked over

Results

37 General Surgery Programs



- Weekly Intervention: 9
- Biweekly Intervention: 9
- Control: 19

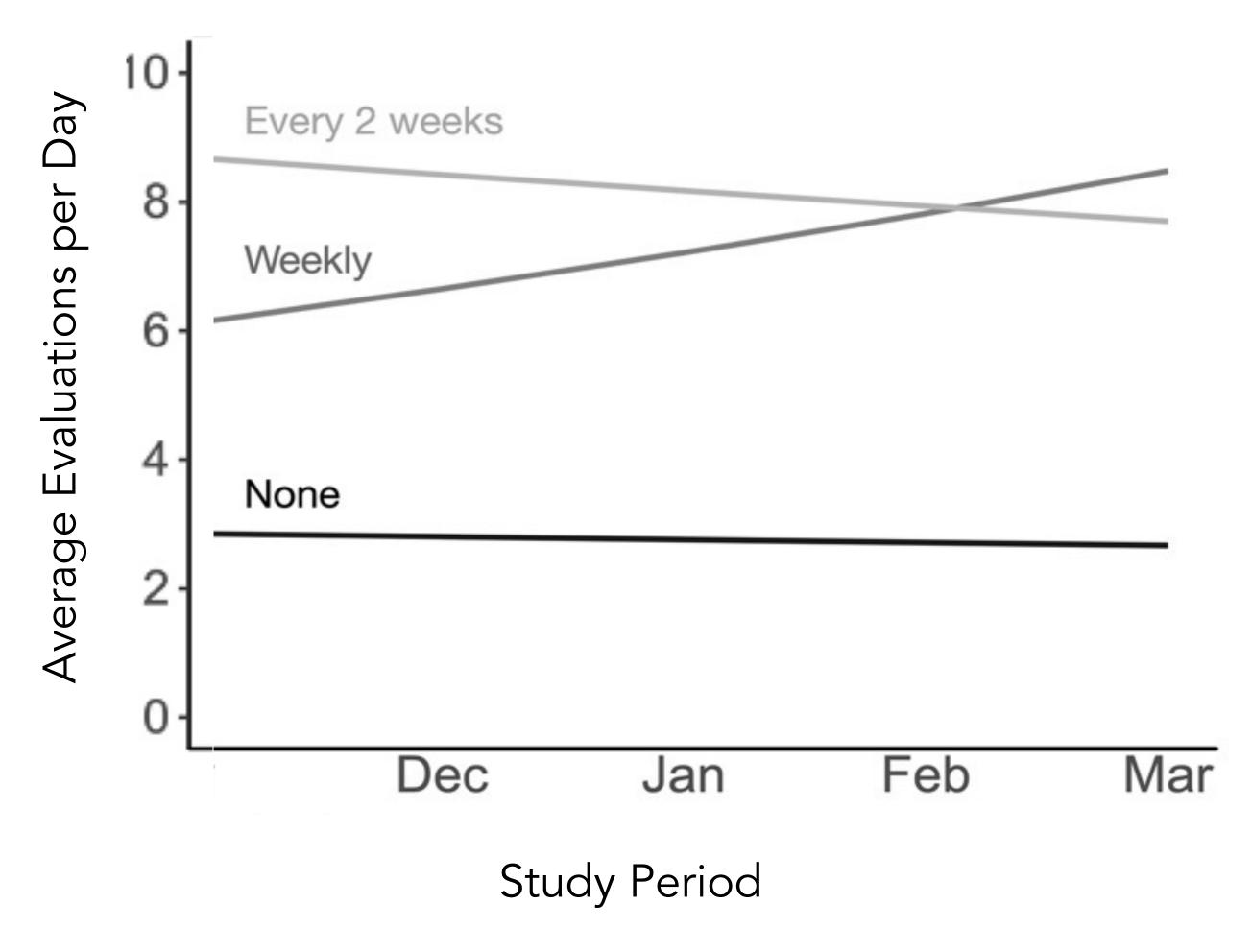


805 Faculty 1,211 Trainees



44,196 Operative Evaluations

User Engagement with SIMPL



Lessons Learned

- Sending a weekly leaderboard of resident and faculty activity with SIMPL had a positive impact on engagement
- Strategically applying gamification techniques to workplace-based assessment may help improve trainee engagement

Future Directions and Next Steps

• Future work is needed to determine the effects of gamification techniques on learning outcomes

