COMPETITION BASED LEARNING: INSPIRING INTEREST IN SURGICAL SKILLS DEVELOPMENT

Nicco Ruggiero, BS; Joseph L'Huillier, MD; Nigel Marine, BS; Owen Burns; Farrah Mawani, BA; Muavé Sanders, BS; Adam Abbas, BS; Timothy Adams, MD; Byron F. Santos, MD; Yana Wirengard, MD, FACS; James "Butch" Rosser, MD, FACS

Introduction

- Minimally invasive surgery (MIS) requires different skills than open surgery
- There is low confidence among surgical residents to independently perform MIS skills.
- Utilization of simulation laboratories by surgical residents is low.
- There are many challenges of teaching advanced MIS skills in surgical training programs.
- Competition Based Learning (CBL) can offer student-centered teaching that can motivate learners to perform well

Aims

- Apply a unique abbreviated CBL experience to measure performance, satisfaction, and future motivation in acquisition of MIS skill sets.

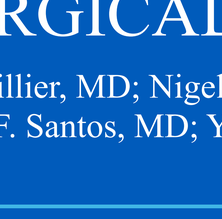
Methods

- Brief CBL Curriculum
  - ➢ TGLSSP/TOP GUN Shootout
  - ➢ Annual SAGES meeting 2022- Denver, Colorado
- Qualifying Round (QR)

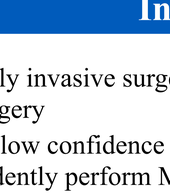
Super monkey ball



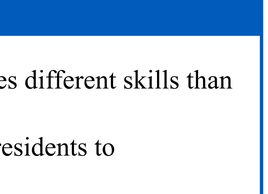
FLS Peg Transfer



Cup drop task



Timed Intracorporeal suturing



- Finals
  - ➢ The top 3 performers in the QR competed in the finals (FLS Peg transfer, Cup Drop and Timed Suture tasks).
  - ➢ The finals consisted of a 30-minute competition with a live audience, continuous background music, and an announcer helping to emulate the stress of performing in the operating room.
- Assessment
  - ➢ Participant performance data was collected, and satisfaction was evaluated on a 7-point Likert scale survey.

Results

A



B



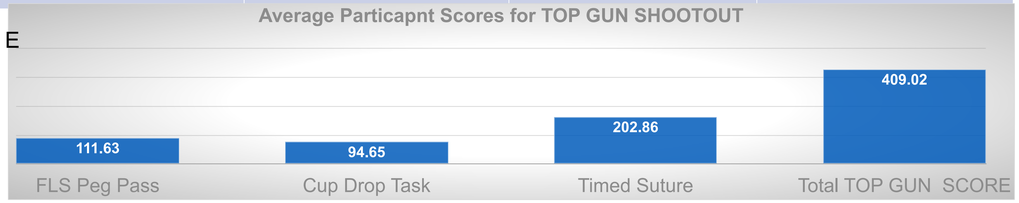
C



D

Total Participants	Geographic Representation	Average Age	Surgical Residents
60	13 States, 9 Countries	33.7	42

E



F

Domain	Statements	Average (SD)
Domain 1: Pre-CBL confidence	1: I am confident in my current ability to suture intracorporeally effectively and safely.	4.47 (2.46)
	2: My prior training prepared me for this competition.	4.88 (2.32)
Domain 2: TGLSSP's applicability and satisfaction	3: The exercises used in this competition were applicable to the skills I need in the clinical setting.	6.12 (1.67)
	4: The techniques and skills evaluated throughout the competition were useful in my execution of an intracorporeal suture.	6.30 (1.49)
	5: The coaching/mentoring provided positively contributed to my experience.	6.33 (1.03)
	6: Each portion of this competition contributed to my ability to perform an intracorporeal suture.	6.14 (1.09)
Domain 3: Interest in seeking further CBL training	7: After participating in this skills competition, I am more likely to participate in a simulation-based course in the future.	6.53 (0.92)
	8: I would recommend this competitive skills experience to my peers.	6.72 (0.73)
	9: I would be interested in implementing this competition at my home institution.	6.40 (1.31)
	10: Overall, I am satisfied with this competitive skills experience	6.56 (1.10)

Conclusion

1. Participants felt an overall lack of confidence in their MIS skills; prior to the 2022 Annual SAGES conference.
2. Participants felt that the brief CBL experience aided in the development of their MIS skills.
3. A brief CBL experience may inspire learners to seek out further training of their MIS skills.

- Limitations
  - ➢ Not all programs have the resources to implement a CBL curriculum.
  - ➢ Limited sample size that may not accurately represent the surgical population world-wide.
- Future Directions
  - ➢ Investigation of how a brief CBL approach can affect the participation/performance of surgical residents at a single institution longitudinally.

Figure Legend

A. Warm up Super Monkey Ball Station of the TOP GUN Shootout
B. View of the practice suture and timed suture station of the TOP GUN Shootout
C. View of the FLS Peg Pass station of the TOP GUN Shootout
D. Overall demographic data for participants at the 2022 Annual SAGES conference
E. Bar graph representing average overall participant performance scores for all tasks.
F. Overall participant satisfaction data for all domains.

References

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