

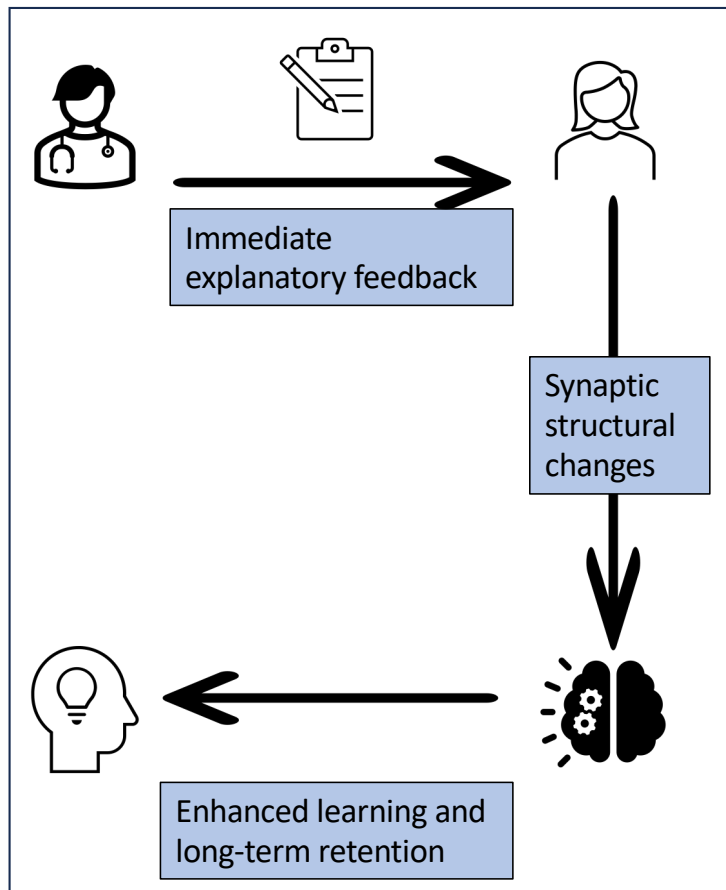
6-Clicks App for Immediate Surgical Clerkship Feedback

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Feedback in Surgical Education



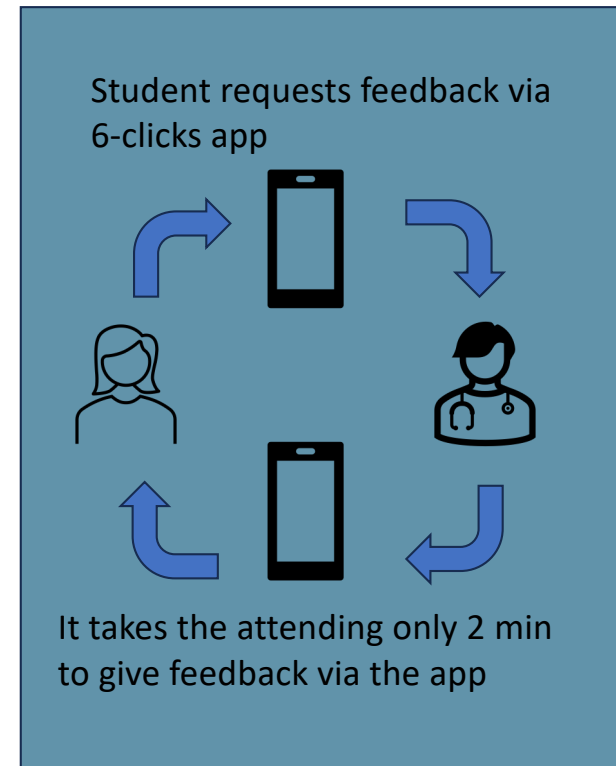
- ***What is the effect of immediate feedback on the brain structure?***
- Neuromodulators and Long-Term Synaptic Plasticity in Learning and Memory - Bazzari et al. (2019).
- **What is the frequency needed to optimize learning?**
- Learning versus performance: An integrative review - Soderstrom, N. C. (2015).
- **How do medical students respond to immediate feedback?**
- Immediate feedback improves diagnostic reasoning in medical students - Siddiqui, Z. S., 2019



What we set out to achieve

- **Overall Hypothesis:** Does providing increased frequency of immediate feedback enhance medical student surgical learning and long-term retention?
- **Goal:** identify a method by which we could increase the frequency of effective feedback to medical students
- **Ideal Formative Feedback Attributes**
 - No delayed in student receiving feedback (rapid feedback)
 - Easily deploy feedback multiple times during clerkship (continuous feedback)
 - Specific and actionable feedback
 - Not burdensome to the students or faculty
 - Conveniently accessed
 - Standardized to common educational goals
 - Correlates to the summative final evaluation

Faculty Input and Student Focus Group





Strength and Weakness Categories

1 Task-based Skills Strengths (choose 1) *

- ☐ Surgical skills
- ☐ History taking
- ☐ Physical examination
- ☐ Oral Presentation
- ☐ written documentation

2 Knowledge Strengths (choose 1) *

- ☐ Anatomy
- ☐ Differential DX
- ☐ Disease Process
- ☐ Diagnostic ordering and interpretation
- ☐ Operating room preparation and knowledge

3 Professional Development weakness (choose 1) *


- ☐ Work Ethic
- ☐ Prepared/Diligent
- ☐ Enthusiasm/Initiative
- ☐ Response to Direction
- ☐ Prioritization of Team Goals
- ☐ Rapport with Family/Patients



Student requests feedback



13:45


< Surgical Feedback request (for stude... 

Request feedback for surgical rotations

Your Name *

First Name Last Name


Upload a picture of yourself to remind the attending who you are



Browse Files
Choose a file

Your Institution E-mail *

13:46

< Surgical Feedback request (for stude... 

Name of attending *

Location of rotation *

☐ OR

☐ Clinic

☐ Wards

Start Date of rotation *

Date

I would like feedback on this specific skill

Faculty Delivers Feedback in 6 Clicks

Click 1- strength category

Click 2- Strength Subcategory

Click 3- Strength Dictation

Click 4- weakness category

Click 5- weakness sub-category

Click 6- weakness dictation

Slide Bar- Star Rating

Your name
Bartholomew, Amelia

Name of student
MONSHIZADEH, AMIRALI

Rotation Location *

☒ Wards
☐ OR
☐ Clinic

Area of strength (choose 1 to see options)

☐ Knowledge
☐ Task-based
☐ Professional Development

Advice/comments to students regarding strength *

Record 0:00 / 1:00

Area of strength (choose 1 to see options)

☒ Knowledge
☐ Task-based
☐ Professional Development

Knowledge Strengths (choose 1) *

☐ Anatomy
☐ Differential DX
☐ Disease Process
☐ Diagnostic ordering and interpretation
☐ Operating room preparation and knowledge

Advice/comments to students regarding strength *

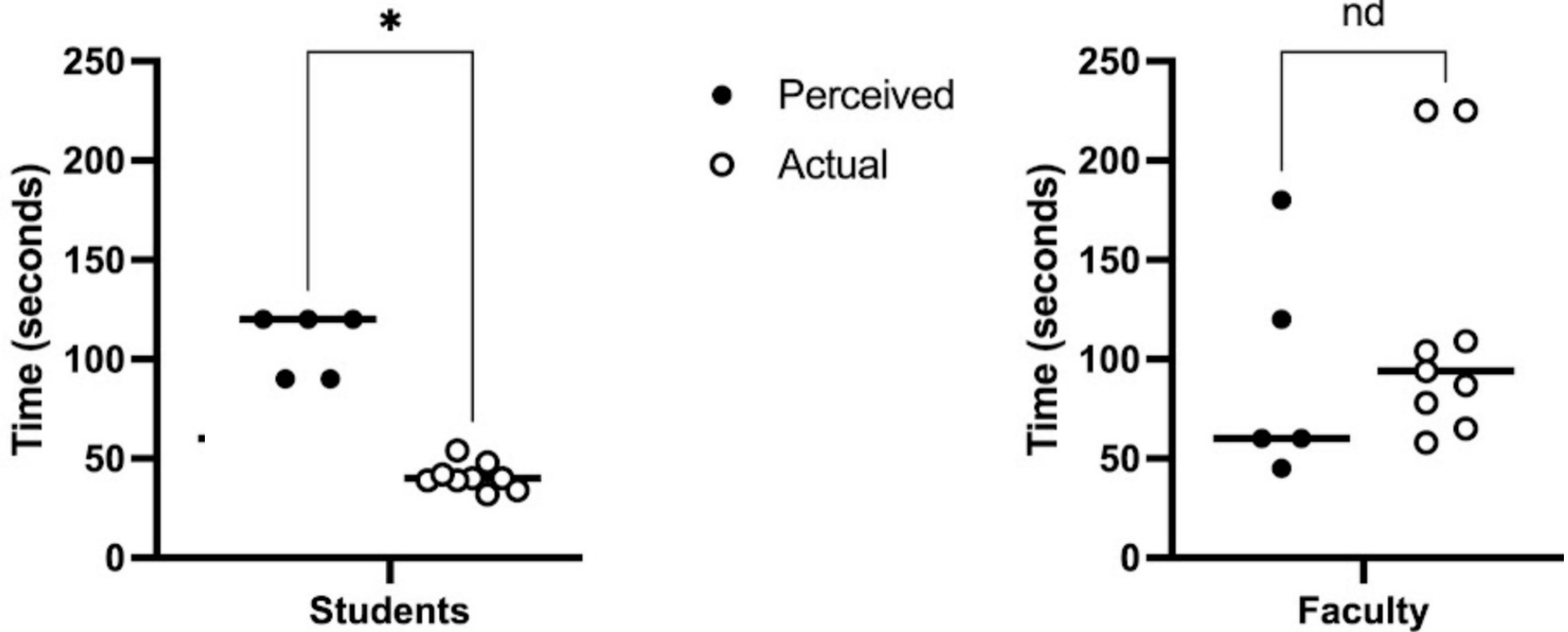
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overall student rating

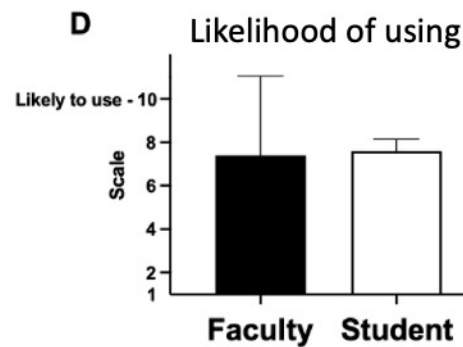
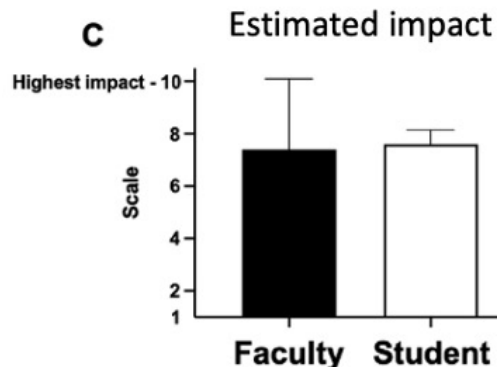
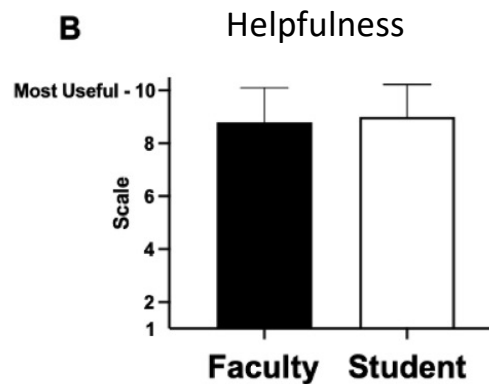
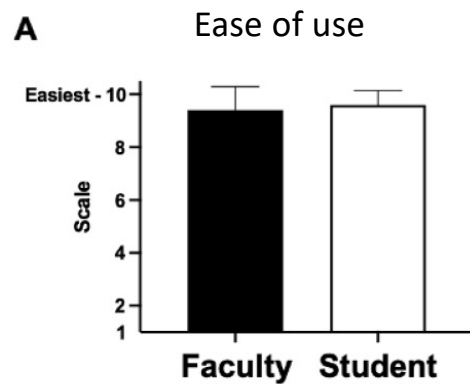
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Save Submit Feedback

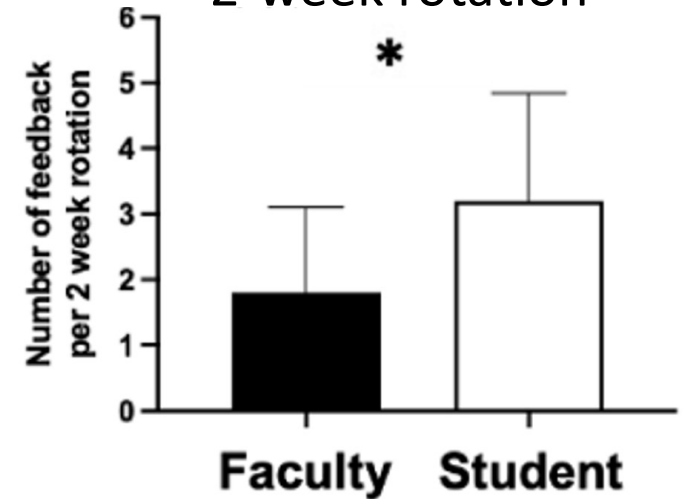
Expectation vs Reality in Requesting and Delivering Feedback



User Assessment Ratings (Scale 1-10)



Optimal number of
App feedbacks per
2-week rotation



* Statistically different $p < 0.05$

Conclusions

- We have created a tool to deliver frequent and immediate feedback.
- With the 6-Clicks App, there is a focus on singular actionable feedback which addresses both a single strength and single weakness in medical student performance.
- The app is feasible and easy to use for faculty, taking less than 2 minutes.
- We expect a greater frequency of feedback will be possible due to the minimal burden of time required.

Next Steps- Address Overarching Hypothesis:

To what extent does providing increased frequency of feedback during the surgical clerkship enhance medical student surgical learning and long-term retention?

Pediatric Surgery:
Thomas Sims, MD

Minimally Invasive Surgery:
Lisa Shimotake, MD
Melani Lighter, MD
Pier Giulianotti, MD

Surgical Intensive Care:
Jacob Avraham, MD

Surgical Oncology:
Aslam Ejaz, MD

Transplant Surgery:
Enrico Benedetti, MD

Translational research:
Amirali Monshizadeh, BS
Alan Carneiro, PhD,
Amelia Bartholomew, MD

Thank you

To collaborate with us using 6-clicks,
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