Quick Response (QR) Codes to Facilitate Formative Feedback

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Introduction
- High quality feedback promotes lifelong learning and inspires goal setting for medical students’ knowledge and skills.
- Previous studies have found that integration of QR codes for healthcare training support have increased the total amount and quality of feedback.
- Previously at WFSM, students received verbal feedback from their coaches and peers during each Clinical Skills course (CS) class session.
- Documentation and compilation of feedback via QR codes could promote student self-reflection and growth over time.

Study Question
Does documented feedback facilitated by QR codes lead to a perceived increase in the amount of, quality of, and learner reflection on verbal feedback provided to students in the CS course?

Methods
- 312 students and 38 faculty participated in the CS course (26, 3.5 hour class sessions) from July 2020 to April 2021.
- Individual students received unique QR codes on the first day of class; instructions for use were provided.
- Each QR code corresponded to a feedback form populated with the student and observer’s names.
- A survey was distributed to all participating students and faculty at the end of the academic year.
- Faculty with highest rates of QR code usage were contacted individually for additional insight.

Results
- Majority of students and faculty utilized feedback “rarely” and felt the QR code feedback system made no change in the quality of feedback (Table 1).
- More faculty felt QR codes improved the quality of their feedback (33% to student 9%).

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often did you receive/give feedback via your QR codes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>44%</td>
<td>24%</td>
</tr>
<tr>
<td>Rarely (1-3 x semester)</td>
<td>47%</td>
<td>47%</td>
</tr>
<tr>
<td>Sometimes (4-6 x semester)</td>
<td>9%</td>
<td>29%</td>
</tr>
<tr>
<td>In terms of the quality of feedback, how does the QR code-supplemented feedback system compare to the traditional feedback model (i.e. verbal feedback only)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement</td>
<td>9%</td>
<td>33%</td>
</tr>
<tr>
<td>No change</td>
<td>72%</td>
<td>53%</td>
</tr>
<tr>
<td>Harm</td>
<td>19%</td>
<td>13%</td>
</tr>
<tr>
<td>Overall satisfaction with the QR code-supplemented feedback system? (1 = very dissatisfied; 10 = extremely satisfied)</td>
<td>3.3</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Table 1. Student and faculty response feedback.

Representative Quotes
- “[QR codes] need to be utilized more regularly in conjunction with face-to-face feedback” (student).
- “[The QR code feedback system] takes us away from the face-to-face interactions with the students because we’re typing on our phones” (faculty).

Conclusions
- While QR code-based feedback has the potential to provide tangible feedback to students, primary challenges in implementation include workflow feasibility and faculty perception on its efficacy.
- Potential solutions include streamlining of the feedback form and expanding education on best practices for QR code use.
- A limitation of this study was the low survey response rate at 20% (57/312) for students and 39% (15/38) for faculty. This could be due to timing of the survey (end of year), survey burnout given number of surveys received, and limited respondent interest in the survey topic.

References
2. Kelvin Reynolds, MD; Danny Barnhill, MD; Jamie Sias, MD; Amy Young, MD; Florenda Greer Postle, MD. J Grad Med Educ (2014) 6 (4): 738–741.