Reflection & Self-Assessment Cycles in Medical School Anatomy Course

Teresa Patitucci PhD¹, Jeffery Fritz PhD²

¹Medical College of Wisconsin – Milwaukee Campus, ²Medical College of Wisconsin – Central Wisconsin Campus

BACKGROUND

Developing character traits including professionalism, self-awareness, and empathy is a current focus in medical education. These traits are crucial for success in the medical field but are harder to teach than medical knowledge. Critical reflection and self-assessment can be used as tools to develop these skills.

- Character development depends on critical reflection of strengths and weaknesses in the areas of professionalism and emotional intelligence.
- Reflective writing allows students to analyze and judge what will or has happened.
- Medical students need to evaluate themselves clearly to care for themselves and patients.

The aim of this study was to use repeated critical reflection and self-assessment in a first-year medical school gross anatomy course to develop professional identity and emotional intelligence.

METHODS

This study involved medical students taking a cadaveric dissection-based Clinical Human Anatomy course during their first semester of medical school.

Learners wrote a critical reflection in response to a writing prompt, then completed a self-assessment which involved self-ratings in areas of emotional intelligence (self-awareness, self-regulation, motivation, empathy, and social skills), listing 3 personal growth fronts, and developing a SMART goal. Learners received written faculty feedback after each assignment. This paradigm was repeated for each block of the course, resulting in 4 reflection/self-assessment cycles total.

Reflections were blinded and evaluated using qualitative analysis by two independent coders. Codes for each reflection were divided into three themes: emotional intelligence, teamwork, and wellness/well-being. Student-reported ability in areas of emotional intelligence was plotted for each cycle, showing growth over time in these areas. At the end of the semester, learners appreciated the need to openly acknowledge strengths and weaknesses, the importance of goal setting, and the need to trust each other in a team setting.

RESULTS

- Self-assessment can be used as tools to develop these skills.
- Learners appreciated the need to openly acknowledge strengths and weaknesses, the importance of goal setting, and the need to trust each other in a team setting.

Table 1

<table>
<thead>
<tr>
<th>Block</th>
<th>Theme</th>
<th>Written Assignments</th>
<th>Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Emotional Intelligence</td>
<td>Reflective Writing</td>
<td>Self-Assessment</td>
</tr>
<tr>
<td>Week 2</td>
<td>Teamwork</td>
<td>Reflective Writing</td>
<td>Self-Assessment</td>
</tr>
<tr>
<td>Week 3</td>
<td>Emotional Intelligence</td>
<td>Reflective Writing</td>
<td>Self-Assessment</td>
</tr>
<tr>
<td>Week 4</td>
<td>Teamwork</td>
<td>Reflective Writing</td>
<td>Self-Assessment</td>
</tr>
</tbody>
</table>

Figure 1. Experimental design of longitudinal assignment.

Figure 2. Frequency of topic discussed in a reflection throughout the semester. (A) In the area of emotional intelligence, student writing revealed that in the beginning of the year, learners struggled with perfectionism but by the end many realized that you don’t have to be perfect to be a future doctor, leading to increased confidence. Learners also described a lot of empathy for their “first patient” especially at the beginning and end of the course. (B) In the area of teamwork, students started the year skeptical of teamwork, but over the semester they recognized the need to openly acknowledge strengths and weaknesses, the importance of goal setting, and the need to trust each other in a team setting. (C) In the wellness/well-being theme, learners began the semester dealing with the concept of death which they appreciated the need to openly acknowledge strengths and weaknesses, the importance of goal setting, and the need to trust each other in a team setting.

Figure 3. (A) Aggregate data on the Emotional Intelligence Inventory suggest that learners found the reflective process to have a somewhat positive influence on their growth in the 5 domains of emotional intelligence with it trending toward positive in four of five domains. (B) Wordle of student identified growth fronts (where word size correlates with frequency) shows learners most frequently identified self-care, teamwork, confidence, wellness time-management, empathy and adaptability as growth fronts throughout the course.

Figure 4. (A) Performance on lecture and lab practical exams was compared between students who completed the reflection/self-assessment assignments (Central Wisconsin) and peers who did not (Milwaukee). There were a few statistical differences but we are confident they were unrelated to this assignment. Importantly, students were not concerned about reflections taking time away from class in their survey. The follow-up perception survey was completed by 71% of participants. (B) Interestingly, 86.7% of respondents recommended continuing reflective writing assignments in the anatomy course, and (C) two-thirds could envision themselves adapting the reflection/self-assessment process outside of clinical human anatomy.

REFERENCES


CONCLUSIONS

In this study, we learned that the first year of medical school is filled with transitions where ongoing development of emotional intelligence and goal-setting can be beneficial. Our learners reported the most growth in areas of self-awareness and teamwork with continued challenges in the areas of finding time for people they care about, physical & social wellbeing, and personal identity formation (imposter syndrome). We also learned that this process is highly dependent on individualized feedback to achieve its full potential and recommend tailored feedback for each student for such assignments.