Beyond Competency: Growth and Improvement as Core Medical and Medical Education Values

James N. Woodruff, MD
Professor of Medicine, Department of Medicine
Dean of Students, Pritzker School of Medicine
Former Program Director, Internal Medicine Residency
Growth Mindset

Carol Dweck, PhD

• Lewis and Virginia Eaton Professor of Psychology at Stanford University
• American Academy of Arts and Sciences
• National Academy of Sciences
• Distinguished Scientific Contribution Award from the American Psychological Association
Notions of Intelligence
Fixed vs Growth Mindset

Fixed
• Your intelligence is something very basic about you that you can’t change very much.
• You can learn new things, but you really can’t change how intelligent you are.

Growth
• No matter how much intelligence you have, you can always change it quite a bit.
• You can always substantially change how intelligent you are.
Fixed and Non-Fixed Notions of Intelligence

Incremental: Intelligence is flexible
Entity: Intelligence is fixed

Figure 1. Graph of interaction effect of theory of intelligence and time on math achievement: Growth curves of predicted mathematics grades over 2 years of junior high school for students with incremental (+1 SD above the mean) and entity (−1 SD below the mean) theories of intelligence.

Changing View of Intelligence Helps

Response to Errors / Mistakes
Learning Goals Impact Motivation and Performance after Errors


<table>
<thead>
<tr>
<th>Goal</th>
<th>Study 4</th>
<th>Study 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>No decrease in intrinsic motivation</td>
<td>Higher intrinsic motivation at beginning <em>and</em> end of course</td>
</tr>
<tr>
<td></td>
<td>Less time and effort withdrawal</td>
<td>Higher grades</td>
</tr>
<tr>
<td></td>
<td>Effort attributions</td>
<td>Greater improvement over time</td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Seeking positive reinterpretation and growth</strong></td>
<td><strong>Deeper processing</strong></td>
</tr>
<tr>
<td>Ability</td>
<td>Lower intrinsic motivation</td>
<td><strong>Lower grades after repeated poor performance</strong></td>
</tr>
<tr>
<td></td>
<td>Loss of self-worth</td>
<td><strong>Higher grades after repeated good performance</strong></td>
</tr>
<tr>
<td></td>
<td>Low ability attributions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time and effort withdrawal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rumination</td>
<td></td>
</tr>
</tbody>
</table>
Mindset Matters… (ethic and ways of knowing)

**Growth Mindset**
- When I fail / make errors, I learn
- I like to challenge myself
- My effort and attitude determine everything
- **My growth is the most important thing**

**Fixed/Ability Mindset**
- Avoid failure / errors at all costs
- Challenges make me anxious
- My abilities determine everything
- **My performance is the most important thing**