**Abstract**

Educators have the ability to influence self-regulatory behavior during study sessions by modifying instructions and task difficulty. However, the impact of these task parameters may manifest differently based on goal framing toward mastery or performance outcomes. We investigated the impact of goal framing and task difficulty on self-regulated study habits and comprehension outcomes. Students read one of two articles equated for content, but differing in technical language (easy vs. difficult), then took a pretest to assess baseline comprehension. Students were sent home to engage in self-regulated study after assignment to one of three goal framing conditions (control, mastery, performance). Students took a final comprehension test 24-48 hours later. Results indicate that emphasizing competition and performance undermines achievement in college students when left to self-regulate learning for difficult tasks. Educators can use these findings to modify instructions based on task difficulty in order to facilitate students’ improved motivational self-regulation.

**Background**

Educators can unknowingly communicate the importance of a certain motivational framework (e.g. goal orientation or mindset) through the framing of objectives or instructions.1,2,4

- Performance orientations are signaled by instructions that emphasize competition or comparison.3
- Framing that encourages self-development and growth is linked to mastery orientations.3

Goal orientations are used by learners to regulate effort and engagement for the duration of a task.2,4

- Performance-oriented goals lead to increased motivation when the opportunity to demonstrate competence arises.3,4
- Mastery-oriented goals encourage strategy use, resilience and persistence in the face of difficulty.1,4

Student performance in the face of challenge can be improved by using learning-oriented framing.4

- Goal framing and instruction manipulations have been shown to influence performance on education-based tasks.1,2,4
- Instructions that emphasize mastery are tied to increased persistence and overall task improvement.1,4
- Performance-oriented instructions can lead to adoption of ineffective learning strategies and poor performance.1,4

Existing research has not accounted for longer study durations for a single specific task.1,3,4

- In-lab studies assess self-regulation over the course of minutes or hours.1
- Observational studies assess motivation and performance over several months, but do not account for the impact of instructional framing on individual task outcomes.1,4

**Method**

**1. Pre-Task Questionnaire**
- Demographic Details
- Naïve Goal Orientation
- Competitiveness
- General Self Efficacy

**2. Task Instructions**
- “Please read the instructions carefully. When you are ready, please read the rest of the article.”

**Session 1 (24-48 hour delay)**

**3. Goal Framing**
- **No Goal**
  - Test to assess understanding
- **Performance-Oriented**
  - Outperform other students
  - Scores will be rank-ordered
  - Emphasizes competition
- **Mastery-Oriented**
  - Demonstrate learning
  - Teach other students
  - Emphasizes growth

**4. Difficulty Manipulation**
- **Easy Article**
  - Popular science publication
  - Geared toward general public
- **Difficult Article**
  - Top-tier journal publication
  - Geared toward experts

**5. Pre-Test**
- 29 Questions
  - Rote & Conceptual

**6. Post-Test**
- Identical to Pre-Test
- 29 Questions
- Rote & Conceptual

**7. Post-Task Questions**
- Motivation
- Effort
- Liking

**Difficult & Instruction Influence Performance**

<table>
<thead>
<tr>
<th>Task + Framing</th>
<th>Do Your Best</th>
<th>Performance Goal Framing</th>
<th>Mastery</th>
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</thead>
<tbody>
<tr>
<td>Easy</td>
<td>1.53</td>
<td>1.64</td>
<td>2.21</td>
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<tr>
<td>Difficult</td>
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<td>0.31</td>
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</tbody>
</table>

**Goal Framing Affects Strategy Use**

When attempting a difficult task, participants following performance-oriented instructions demonstrated worse testing outcomes than participants who received a mastery-oriented instruction, \(F(2, 85) = 3.65, p = .03\). When the task was easy, performance-framed instructions led to better outcomes.

**In summary...**

When giving instructions for a task that requires self-regulated learning, attention to task difficulty is critical.

- For easy tasks, inspiring some competition through performance framing can be beneficial.
- For difficult tasks, either allowing students use their naïve goal approaches or imposing a mastery-focused goal is best.

**Questions & Predictions**

- Does goal-oriented instructional framing interact with task difficulty to influence self-regulated study habits over time?
- Mastery-framed goals will facilitate better test outcomes than performance goals, especially when paired with difficult task.
- A broad and nonspecific goal (i.e. “Do your best.”) will not contribute to improved performance.

**Get ahold of us!**

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**References**