Increasing Student Motivation: Strategies That Work

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Motivation

“Motivation refers to the personal investment an individual has in reaching a desired state or outcome.”

(Ambrose et. al, 68)

“In the academy, the term ‘motivating’ means stimulating interest in a subject and, therefore, the desire to learn it.”

(Nilson, 57)
Why Is It Often Difficult to Motivate Students?

Characteristics of many students:

- Working more hours
- More diagnosed ADHD
- Interested in obtaining credentials
- Feel entitled to an A or B if they consistently attend
- Few time management skills
- Few learning skills
Three Important Levers that Influence Motivation

- **Value** – the importance of a goal (attainment, intrinsic, instrumental)

- **Supportive Nature of the Environment** – the instructor is approachable, support is available from peers and others

- **Efficacy Expectancies** – the belief that one is capable of identifying, organizing, initiating, and executing a course of action that will bring about a desired outcome

Ambrose et al., 80
Motivation Principles

- Students’ motivation generates, directs, and sustains what they do to learn

- Concepts important to understanding motivation: subjective value of a goal and the expectation for successful attainment of the goal

Ambrose et al., 69
Learned Helplessness*

Based on prior experience, the feeling that no amount of effort will bring success destroys motivation to attempt a task.

*Martin Seligman and Steven F. Maier
Solving Anagrams

http://www.youtube.com/watch?v=MTqBP-x3yR0
Remediation of Learned Helplessness Requires That We:

- Understand the causes

- Help students understand the distorted beliefs and misperceptions that are causing their current deficits

- Provide students the tools to change their behavior and refute their distorted beliefs
The Cure for Learned Helplessness

- Understanding your “explanatory style”
  To what do you attribute failure or success?
- Changing the negative, self-destructive things you say to yourself when you fail
- Making the new statements a permanent part of your explanatory style
- Recognizing that perception of ability has the most influence on the amount of effort you will expend on a task!
Ways to Create A Supportive Environment

- Introduce engaging, fun activity if possible.
- Provide clear grading schemas and rubrics if possible.
- Show the instructor’s human side – hobbies, past academic struggles, etc.
- Emphasize the importance of effort, rather than prior experiences, in performance.
- Demonstrate confidence that every student can succeed!
Five Bases of Intrinsic Motivation

- Autonomy (Control One’s Own Destiny)
- Competence (Do Things that Help One Feel Successful)
- Belonging (To Feel Part of a Group Effort)
- Self-Esteem (To Feel Good About Who They Are)
- Involvement and Enjoyment (To Find Pleasure in What They Do)

James Raffini, Allyn and Bacon, 1995
Strategies for Enhancing Student Autonomy

- Student Choice in Research Papers, Groups, Projects, Discussion Topics
- Goal Setting Activity
Strategies for Enhancing Competence

- Clearly articulate expectations
- Provide Early Success Opportunities
- Discuss the way many students explain success and failure – *attribution theory*

(e.g. success attributed to luck or ability, rather than effort; failure attributed to lack of ability or factors beyond their control, rather than lack of effort)
More Strategies for Enhancing Competence

- Provide Targeted Feedback and Rubrics
- Describe Effective Learning Strategies
  - Introduce Metacognition and Bloom’s Taxonomy
  - Implement Cooperative Learning
  - Games (e.g. Jeopardy, Millionaire)
Metacognition

The ability to:

- think about your own thinking
- be consciously aware of yourself as a problem solver
- monitor, plan, and control your mental processing (e.g. “Am I understanding this material, or just memorizing it?”)
- accurately judge your level of learning
- know what you know and what you don’t know

Bloom’s Taxonomy

- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory.

- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.

- **Applying**: Carrying out or using a procedure through executing, or implementing.

- **Analyzing**: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure.

- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing.

- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

This pyramid depicts the different levels of thinking we use when learning. Notice how each level builds on the foundation that precedes it. It is required that we learn the lower levels before we can effectively use the skills above.

http://www.odu.edu/educ/llschult/blooms_taxonomy.htm
The Study Cycle

**Preview**
*Preview before class* – Skim the chapter, note headings and boldface words, review summaries and chapter objectives, and come up with questions you’d like the lecture to answer for you.

**Attend**
*Attend class* – GO TO CLASS! Answer and ask questions and take meaningful notes.

**Review**
*Review after class* – As soon after class as possible, read notes, fill in gaps and note any questions.

**Study**
*Study* – Repetition is the key. Ask questions such as ‘why’, ‘how’, and ‘what if’.
- Intense Study Sessions* - 3-5 short study sessions per day
- Weekend Review – Read notes and material from the week to make connections

**Assess**
*Assess your Learning* – Periodically perform reality checks
- Am I using study methods that are effective?
- Do I understand the material enough to teach it to others?

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Intense Study Sessions

1. **Set a Goal**  
   Decide what you want to accomplish in your study session

2. **Study with Focus**  
   30-50 min  
   Interact with material- organize, concept map, summarize, process, re-read, fill-in notes, reflect, etc.

3. **Reward Yourself**  
   10-15 min  
   Take a break– call a friend, play a short game, get a snack

4. **Review**  
   5 min  
   Go over what you just studied

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Before and after scores are very motivational.

- Robert, freshman chemistry student
  42, 100, 100, 100 A in course
- Michael, senior pre-med organic student
  30, 28, 80, 91 B in course
- Miriam, freshman calculus student
  37.5, 83, 93 B in course
- Ifeanyi, sophomore thermodynamics student
  67, 54, 68, 95 B in course
- Terrence, junior Bio Engineering student
  GPA 1.67 cum, 3.54 (F 03), 3.8 (S 04)
Help Students Develop the Right Mindset


Mindset* Impact Motivation

- Fixed Intelligence Mindset
  Intelligence is static
  You have a certain amount of it

- Growth Intelligence Mindset
  Intelligence can be developed
  You can grow it with actions

Responses to *Many* Situations are Based on Mindset

<table>
<thead>
<tr>
<th></th>
<th>Fixed Intelligence Mindset Response</th>
<th>Growth Intelligence Mindset Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges</td>
<td>Avoid</td>
<td>Embrace</td>
</tr>
<tr>
<td>Obstacles</td>
<td>Give up easily</td>
<td>Persist</td>
</tr>
<tr>
<td>Tasks requiring effort</td>
<td>Fruitless to Try</td>
<td>Path to mastery</td>
</tr>
<tr>
<td>Criticism</td>
<td>Ignore it</td>
<td>Learn from it</td>
</tr>
<tr>
<td>Success of Others</td>
<td>Threatening</td>
<td>Inspirational</td>
</tr>
</tbody>
</table>
As a result, they may plateau early and achieve less than their full potential.

All this confirms a deterministic view of the world.

As a result, they reach ever-higher levels of achievement.

All this gives them a greater sense of free will.
Which mindset about intelligence do you think *most students* have?

1. Fixed
2. Growth
Email from a General Chemistry Student  
Spring 2011

“…Personally, I am not so good at chemistry and unfortunately, at this point my grade for that class is reflecting exactly that. I am emailing you inquiring about a possibility of you tutoring me.”

April 6, 2011

“I made a 68, 50, (50), 87, 87, and a 97 on my final. I ended up earning a 90 (A) in the course, but I started with a 60 (D). I think what I did different was make sidenotes in each chapter and as I progressed onto the next chapter I was able to refer to these notes. I would say that in chemistry everything builds from the previous topic.

May 13, 2011

Semester GPA: 3.8
Which mindset about *student* intelligence do you think *most* faculty have?

1. Fixed
2. Growth
Which mindset about student intelligence do you think most STEM faculty have?

1. Fixed
2. Growth
American, Japanese, and Taiwanese Mothers’ View of Mathematics Achievement*

- American mothers rated effort as significantly less important than Asian mothers.
- American mothers rated ability as significantly more important than Asian mothers.
- American mothers said it was possible to predict a child’s high school math performance much earlier than Asian mothers said was possible.
- American parents are satisfied with their children’s mediocre performance, whereas Asian parents express much less satisfaction with their children’s higher achievement.
- American parents and children believe that Asian children are more talented in mathematics than American children.

Mr. Lorenzo Foster’s Physics I AP Class Test Scores
Strategies, Dedication and Hard Work PAID OFF!

<table>
<thead>
<tr>
<th>Exam 1</th>
<th>Exam 2</th>
<th>Exam 3</th>
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</thead>
<tbody>
<tr>
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<td><strong>66.88</strong></td>
<td><strong>86.786</strong></td>
<td><strong>95.58</strong></td>
</tr>
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</table>
Physics I AP Students After Learning Their Test 2 Scores
Strategies for Enhancing Belonging and Relatedness

- Create a community of scholars in the classroom where students are accountable to each other
  
  e.g. Team based learning

- Provide authentic, real world tasks
  
  e.g. Service-learning, problem based learning,
Strategies for Enhancing Self-Esteem

- Have students share answers to:
  - What is one thing do you do very well?
  - How did you learn to do it well?
  - How can you relate this to academic success?

- Identify an appropriate level of challenge

- Provide Early Success Opportunities
Strategies for Enhancing Involvement and Enjoyment

- Introduce Engaging and Fun Activities
- Connect to Students’ Interests
- Switch Days (Student becomes teacher; teacher becomes student)
- Reduce Student Anxiety
- Use Strategies from Skip Downing at www.oncourseworkshop.com
## Teacher’s Role in Student Motivation
Eric Hobson, Albany College of Pharmacy

<table>
<thead>
<tr>
<th>Positive Motivation</th>
<th>Negative Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher’s attitudes 27%</td>
<td>Teacher’s attitudes 32%</td>
</tr>
<tr>
<td>Course structure 22%</td>
<td>Course structure 26%</td>
</tr>
<tr>
<td>Intrinsic 20%</td>
<td>Learning environ. 13%</td>
</tr>
<tr>
<td>Course content 17%</td>
<td>Course content 11%</td>
</tr>
<tr>
<td>Performance meas. 10%</td>
<td>Intrinsic 10%</td>
</tr>
<tr>
<td>Financial 1%</td>
<td>Parents/Others 1%</td>
</tr>
<tr>
<td>Parents/Others 1%</td>
<td>Financial 0.3%</td>
</tr>
</tbody>
</table>
Faculty *can* significantly increase student motivation by…

- Teaching students they can make themselves smarter by spending time on the material
- Testing early and often, providing early opportunities for success
- Conduct a class session on the importance of metacognition after the first exams are returned
- Express our confidence that *every* student can succeed
- Introducing a metacognitive get-acquainted activity on the first day of class
Metacognitive Get Acquainted Activity*

* What do you believe is important to understand and learn in ________________?

* What do you believe to be critical characteristics of successful students in ____________?

* How will you study and prepare for exams in ________________?

Reflection Activity

- Pick an activity or assignment from your class or your interaction with students. Using the ideas on the previous slides, describe how you could enhance that activity or assignment to increase student motivation.

- Share this activity with the group
References


