Using the Science of Motivation to Engage All Learners

Christine Harrington Ph.D.
&
Melissa Thomas, J.D.

Wlodkowski and Ginsberg’s (1995) Culturally Responsive Motivational Framework

**Establishing Inclusion**
- Respect and Connection

**Developing Attitude**
- Positive Mindset and Internal Locus of Control

**Enhancing Meaning**
- Real World Applications and Critical Thinking

**Engendering Competence**
- Self-efficacy and Celebrating Success
Establishing Inclusion

Respect and Connection

Establishing Inclusion: Instructional Strategies

Respect and Expectations
- Foundation of respect/validation
- Negotiated, clear rules and norms

Connections and Relationships
- Ice-breakers
- Equitable attention from instructor
Being Culturally Responsive
Brody, Ross, Gallingane, & Hambacher (2007)

- Explain the importance of relationships and then have an opportunity to get to know each other
- Establish expectations and belief in student ability to achieve

Validating Culturally Diverse Students

- 132 first-year students across 4 institutions
- Not random sample (select groups chosen by IR)
- Focus groups with open-ended interview protocol

RQ1: How do students become active and involved participants in the academic community?

Rendon, 1994
General Results

- Nontraditional and minority students communicated doubts about their ability to succeed.
- Many students need active intervention from significant others to help them negotiate institutional life.
- Success during the critical first year appears contingent upon whether students get involved in institutional life or whether external agents can validate students, in an academic or interpersonal way.

Rendon, 1994

In-Class Academic Validation

**Faculty Actions**

- Demonstrate genuine concern
- Be personable and approachable
- Treat students equitably
- Structure learning experiences that allow students to experience themselves as capable of learning
- Work individually with those students needing help
- Provide meaningful feedback
Establishing Inclusion: Fostering Connections

Early Actions → The Syllabus → Ice-breakers

Early Actions

Sending an e-mail before the semester begins

Legg & Wilson (2009)
The Study (Legg & Wilson, 2009)

66 College Students
(randomly assigned)

- Received e-mail 1 week prior to class
- Did not receive email

Overall Perception of the Course

<table>
<thead>
<tr>
<th></th>
<th>First Week</th>
<th>Last Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Email</td>
<td>4.03</td>
<td>4.14</td>
</tr>
<tr>
<td>Email</td>
<td>4.48</td>
<td>4.48</td>
</tr>
</tbody>
</table>
Using Your Syllabus to Motivate

Tone and Motivation (Harnish & Bridges, 2011)

Students thought they were evaluating an adjunct

172 Students

Friendly Syllabus

Unfriendly Syllabus
Examples from Syllabus

Unfriendly

• If you need to contact me outside of office hours, you may e-mail me.

• Come prepared to actively participate in this course. This is the best way to engage you in learning.

Friendly

• I welcome you to contact me outside of class and student hours. You may e-mail me.

• I hope you actively participate in this course. I say this because I found it is the best way to engage you in learning.

The Results!

<table>
<thead>
<tr>
<th>Topic</th>
<th>Friendly Average</th>
<th>Unfriendly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approachability</td>
<td>4.07</td>
<td>3.77</td>
</tr>
<tr>
<td>Faculty Level of Motivation to Teach</td>
<td>3.6</td>
<td>3.07</td>
</tr>
<tr>
<td>Difficulty</td>
<td>3.34</td>
<td>3.72</td>
</tr>
</tbody>
</table>

Harnish & Bridges, 2011
The Syllabus and Reaching Out for Support
(Perrine, Lisle & Tucker, 1995)

104 College Students

Support Statement on Syllabus
"Please come and talk to me"

No Support Statement on Syllabus

Seek help from instructor?

Results- Willingness to Help!

<table>
<thead>
<tr>
<th>Potential Problem</th>
<th>Supportive</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trouble understanding textbook</td>
<td>4.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Low grade on first exam</td>
<td>4.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Hard to hear instructor's lectures</td>
<td>4.4</td>
<td>3.8</td>
</tr>
<tr>
<td>Study skills ineffective for course</td>
<td>4.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Thinking about dropping course</td>
<td>4.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Trouble understanding major topic</td>
<td>5.3</td>
<td>4.2</td>
</tr>
</tbody>
</table>

All significantly different!

Perrine, Lisle, & Tucker, 1995
Syllabus Activity

The First Day of Class

First Day of Class
- Undergraduate Students

Positive Condition:
- Friendly Videotape

Negative Condition:
- Non-emotional Videotape
Results:

Positive First Day (friendly):

• Higher motivation across the semester
• Higher grades

The Reciprocal Interview First Day of Class Activity
Hermann, Foster, & Hardin (2010)

377 College Students in 16 sections
Support, Satisfaction
Activity
No Activity
The Reciprocal Interview

1. 5 or 6 students spent 10-15 minutes discussing course expectations, etc.

1. Instructor interviewed group representative

1. Groups spent 5-10 minutes creating questions for instructor

Hermann, Foster, & Hardin, (2010)

Results: More favorable attitudes toward class

Hermann, Foster, & Hardin, (2010)
Action Plan

Establishing Inclusion

Developing Attitude
Developing Attitude: Instructional Strategies

Positive Mindset
- Communicate belief in their ability
- Foster academic resilience
- Give students choices about learning

Productive Thinking - Locus of Control
- Help students attribute success and failure to controllable factors such as effort

Activity
- You have each been given a set of anagrams to solve (word puzzles). This is not meant to tax you. Please keep them face down.

- Please just work the first puzzle and when you are done, raise your hand. Rearrange the letters to form a word. Just one word.

- Hands down. Let’s just go to #2. Go ahead and solve the second one. Please raise your hand.

- Okay. Hands down. Let’s go on to the third one.
Learned Optimism
Forgeard, & Seligman, 2012

- We CAN learn to be optimistic
- Optimism is associated with:
  - Health
  - Overall Well Being
  - Success

Fostering Positive Mindset

Self-Efficacy  →  Instructor Mindset  →  Attribution Theory
Bandura (1997)

Self-efficacy

Can I successfully do the activities needed to be successful?

Self-Efficacy Begins with...

Taking Risks or Experimenting And Courage
Building Self-Efficacy: Creating Successful Experiences

Challenging Assignments with Support

What About OUR Expectations?
Rosenthal and Jacobson (1968)

Do teacher expectations impact student performance?
Rosenthal and Jacobson (1968)

**Brief Overview**

Students were randomly assigned IQ scores (smart or not smart) and these scores were provided to teachers.

**Results at a Glance**

Students in the “smart” group performed significantly better than the students in the “not smart” group.
Key Finding:

Teacher Expectation → Academic Performance

Wait- there’s more!

Rats were randomly assigned to “fast learner” or “slow learner” category and graduate students had to teach rats to run a maze.
Results at a Glance:

“Fast learning” rats

- Mastered the mazes more quickly
- Viewed as smarter
- Viewed as more attractive
- Viewed as more likeable than the “slow learning” rats!

Attribution Theory
Mueller and Dweck’s (1998) Study

Prediction Time:
Who Performed the BEST?
Who Performed the WORST on the last puzzle?
The Results...

Students in Ability Praise group

- Solved less puzzles correctly
- Did not want to persist on tasks
- Did not enjoy the task as much as students in the effort praise group.

Mueller and Dweck (1998)
Application

Help students attribute their mistakes to something that is INTERNAL and CHANGEABLE (like effort)!

Brain-writing: Choices

1. Every group member (n = 4) writes down an idea about how you can build choices into your class.
2. Pass the index card to the right
3. Write another (not the same as your prior idea(s) and not an idea already listed on the card
4. Continue passing the card until it reaches the originator
5. Group Discussion about all the ideas generated
Action Plan

Developing Attitude

Enhancing Meaning
Enhancing Meaning: Instructional Strategies

Making Connections to Real World
- Numerous Examples
- Role-playing
- Case Studies
- Scenarios

Deep Engagement with Content and Critical Thinking
- Critical Questioning
- Inquiry Opportunities
- Active Learning Strategies

Enhancing Meaning

Real World Assignments → Questioning → Group Work
Making Real World Connections

• Know your students
• Case Studies
• Examples
• Assignments that mirror real world tasks

What is Critical Thinking?

• Awareness of a set of interrelated critical questions
• Ability to ask and answer critical questions at appropriate times
• Desire to actively use the critical questions

Browne & Keely (2009)
Approaches to Thinking

• Sponge
  • Advantages: provides good foundation & is mentally easy
  • Disadvantage is you can become a mental puppet.

Approaches to Thinking

- Panning for gold
  - Active interaction with knowledge as it is being acquired.

- They work together – the sponge is knowledge, and knowledge is required for panning/evaluating.
Mindfulness & the Process of Learning
Lieberman & Langer (as cited in Langer 1998)

9th Grade Students

Read – You will be Tested

Learn the Material

Make the Material Meaningful to You

Results on Mindful Learning?

- Students who did not rely on memorization outperformed the others on every measure:
  - They recalled more information from both readings
  - The essays they wrote were judged to be more creative and intelligent
  - Their scores improved from the first to the second test

Lieberman & Langer (as cited in Langer 1998)
Questioning

• Beyond Facts
• Critical Thinking
  – Why?
  – What evidence exists?
  – How does this connect to…

Cooperative Group Work

- Common purpose or goal
- Positive interdependence
- Individual accountability
- Communication

Millis (2010)
Jigsaw Classroom (Aronson et al., 1978)

HOME BASE GROUP: 3-5 students

EXPERT GROUP: Work together to learn the topic and be ready to teach your home base group members

HOME BASE GROUP: Teach each other

Your Task:

Decide on “experts”:
1. **Self-selection vs. assigned groups**
2. **Strategies to equalize workload**
3. **Grading group work**

In “expert” groups:
- Discuss the topic
- Determine 2-3 most important points
- Be prepared to “teach” your home base group members- they are depending on you!
In Expert Groups, Answer:

**SELF-SELECTION vs. ASSIGNED GROUPS**

Should you allow students to choose groups or should you assign students to groups? Why?

**EQUALIZING WORKLOAD**

How can you reduce social loafing and increase the likelihood that all students are contributing?

**GRADING**

Should you give individual, group, or combination grades? What are the advantages and disadvantages of each approach?

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**Jigsaw Classroom**

(Walker & Crogan, 1998)

- Improved academic performance
- Better attitude toward peers
- Reduced prejudice
Group Work – Research Based Tips

Working individually on entire project BEFORE working together resulted in better academic performance

Knowing full CONTENT first (vs. part of the content) led to better performance

(Sarfo and Ellen, 2011)

Action Plan

Enhancing Meaning
Engendering Competence

Engendering Competence: Instructional Strategies

Building Academic Self-Efficacy Through Successful Experiences
- Teach goal setting and effective study strategies
- Design challenging yet doable assignments
- Effective feedback

Celebrating Success
- Valuing and rewarding a diversity of competencies
- Opportunities for reflection and self-assessment
Engendering Competence

What is the MOST Important Goal Characteristic?

Challenging Goals Get Better Results

Locke and Latham (2002)
Wicker, Hamman, Reed, McCann, & Turner (2005)
Depression: Is there a Downside to Challenging Goals?

Reynolds & Baird (2010)

- Ages 14-22
- 12,686 participants

- 1992
- 9,016 participants

- Highest Degree
- 4,892 participants
Goal Attainment?
Reynolds & Baird (2010)

![Bar chart showing percentages of falling short, achieving, and exceeding goals.]

Results... Go Ahead Challenge Yourself
Reynolds & Baird (2010)

- No evidence of “emotional cost” (depression) for unrealized goals
- Higher expectations were associated with lower levels of depression

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Study Strategies

Effective
- Multi-Sensory Learning
- Testing Effect
- Teaching
- Organizing

Not as Effective
- Learning Styles
- Reviewing or rehearsal

The Testing Effect
Roediger, & Karpicke (2006)

180 college students
- SSSS
- SSST
- STTT

Study Technique
Retention of Information

S = Study; T = Test
Retrieval is a MEMORY tool!!!

Roediger & Karpicke (2006)

Organizing as a Powerful Study Strategy
Dickinson and O'Connell (1990)

113 Undergraduate Students

Recorded Study Time and Strategy WHILE studying

Test Grade

Reading
Reviewing
Organizing
The Results!
Dickinson and O’Connell (1990)

The Results: How You Study Matters!
Dickinson and O’Connell (1990)
Feedback is Complex

Langer 2011

Feedback: Equity for undergraduates?
Taras (2006)
Linking Assignments?

- Rough Draft
- Individual Paper
- Power Point Slides
- Presentation

Faculty Feedback
Stern & Solomon 2006

What We Say is Important…
- Big Picture
- Organization
- Content

What We Give Feedback On…
- Technical corrections
  - Spelling
  - Grammar
  - Word Choice
Power of Verbal Feedback

Targeted Feedback
Facey (2011)

Feedback on one aspect of the assignment
Celebrating Different Types of Success

- Quizzes or tests
- Papers
- Presentations/Videos
- Portfolios

Opportunities for Critical Self-Reflection

How do you do this in your course?

Brookfield, 1988
Two Examples of Critical Self-Reflection

- Freshman Seminar final exam
- Lengthy letter to next year's freshman about what they learned in the course and in their first semester of college.
- Ethical Self-Analysis Paper
- Series of biweekly reflections on ethical dilemmas
- Pre and post self-analysis on their ability to spot ethical issues, value and weigh options, etc.

Benefits are two-fold:
- They see the value in the course and what they have learned. Great opportunity for them to gather all that they have done in one place.
- You get to see the transformational nature of your course.

Action Plan

Enhancing Meaning
Thank You for “Working Hard” Today

All the Best as You Use the Science of Motivation to Engage Learning!

Slides are available at www.scholarlyteaching.or

Questions:
drchristineharrington@verizon.net
melissathomas@utexas.edu