Definitions

- **Motivate**
  
  “to provide with a motive”

- **Motive**
  
  “something that causes a person to act in a certain way”

- **Success**
  
  “the achievement of something desired, planned, or attempted”
Vincent Tinto
(Source: *Leaving College*)

- Intention - Absence of goals
- Commitment - Unwilling to put in effort
- Adjustment - Inability to adjust to social and academic demands
- Difficulty - Academic dismissal
- Congruence - Mismatch with institution
- Isolation - Absence of social interaction
- Obligations - Friends, family, employment
- Finance - Inadequate resources
Forums for faculty to motivate students?

- Introduction to Engineering course
- Other engineering courses
- Advising/mentoring
Success Process

1. Goal identification
2. Strengthening commitment to goal
3. Change behaviors
4. Change attitudes
Goal identification

Basic idea

How can you ever expect to get somewhere if you don’t know where you want to go?

- Goals give you something to measure yourself against
- Goals give your life direction
- Write down your goals
Strengthening commitment to goal

- Understanding the benefits (rewards and opportunities) – goal clarification
- Understanding the essence
- Increasing global awareness (having a strong foundation)
- Having a road map (step-by-step plan)
Goal Clarification - Rewards and Opportunities of Engineering

1. Job satisfaction
2. Varied Opportunities
3. Challenging Work
4. Intellectual Development
5. Social Impact
6. Financial Security
7. Prestige
8. Professional Environment
9. Understanding How Things Work
10. Creative Thinking
Changing Behaviors

- Behaviors for success in math, science, engineering study
- Pedagogy for change
Behaviors for Success

- Time and energy devoted to studying ("time on task")
- Study from class to class rather than from test to test
- Group study/collaborative learning
- Making effective use of professors
- Preparing for lectures
- Utilizing resources (e.g., tutoring, advising, counseling, etc)
- Preparing for and taking tests
Pedagogy for changing behaviors

1. Establish a baseline
2. Deliver knowledge
3. Build commitment to behavior
4. Require/assign implementation
5. Process outcomes
Conditions for collaborative learning

- Taking same course
- Enrolled in same section
- Know each other (“Name Game”)
- Aware of the efficacy of collaborative learning
Change attitudes

Negative attitudes that inhibit success

- Weak commitment to goal of graduating in engineering
- Unrealistic view of what’s expected (e.g., overconfidence, naivete)
- Low self confidence
- Lack of self worth (i.e., tendency to sabotage their success)
- External “locus-of-control” (i.e., adoption of victim role)
- Negative view toward authority figures
Negative attitudes that inhibit success (continued)

- Unwillingness to seek help
- Resistance to change (e.g., personal growth and development)
- Tendency toward procrastination (e.g., negative view toward time management)
- Avoidance of areas of weakness or perceived unpleasantness (e.g., written communications, interpersonal interaction, chemistry)
- Reluctance to work with other students (i.e., avoidance of group study)
Chopra’s "Law of Karma" explains the importance of becoming "conscious,"

Most of us, as a result of conditioning, have repetitious and predictable responses to the stimuli in our environment. Our reactions seem to be automatically triggered by people and circumstances, and we forget that these are still choices that we are making in every moment of our existence. We are simply making these choices unconsciously.

and how through doing so, we are able to change our choices:

If you step back for a moment and witness the choices you are making as you make those choices, then in just this act of witnessing, you take the whole process from the unconscious realm into the conscious realm. This procedure of conscious choice-making is very empowering.
Helping Students Change Attitudes

- Help student become “conscious” of a negative attitude
- Have student answer the question, “Is attitude working for me?”
- Ask “Does attitude come from a source that can be changed?”
  - Yes: Try to eliminate the source
  - No: Try to change the attitude
- Yes: Attitude is (by definition) “positive”
You are what your deep, driving desire is.
As your desire is, so is your will.
As your will is, so is your deed.
As your deed is, so is your destiny.

Brihadaranyaka Upanishad IV.4.5
What can you do for your students?

**Implementation Exercises**

1. Build community
2. Strengthen commitment
3. Change behaviors
4. Change attitudes