By Chelsea Yarborough, Graduate Teaching Fellow, and Heather Fedesco, Assistant Director

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615-322-7290
cft.vanderbilt.edu

Motivating Students

Introduction

Fostering student motivation is a difficult but necessary aspect of teaching that instructors must consider. Many may have led classes where students are engaged, motivated, and excited to learn, but have also led classes where students are distracted, disinterested, and reluctant to engage—and, probably, have led classes that are a mix. What factors influence students' motivation? How can instructors promote students' engagement and motivation to learn? While there are nuances that change from student to student, there are also models of motivation that serve as tools for thinking through and enhancing motivation in our classrooms. This guide will look at three frameworks: the expectancy-value-cost model of motivation, the ARCS model of instructional design, and self-determination theory. These three models highlight some of the major factors that influence student motivation, often drawing from and demonstrating overlap among their frameworks. The aim of this guide is to explore some of the literature on motivation and offer practical solutions for understanding and enhancing student motivation.

Expectancy – Value – Cost Model

The purpose of the original expectancy-value model was to predict students' achievement behaviors within an educational context. The model has since been refined to include cost as one of the three major factors that influence student motivation. Below is a description of the three factors, according to the model, that influence motivation.

- **Expectancy** refers to a student's expectation that they can actually succeed in the assigned task. It energizes students because they feel empowered to meet the learning objectives of the course.
- **Value** involves a student's ability to perceive the importance of engaging in a particular task. This gives meaning to the assignment or activity because students are clear on why the task or behavior is valuable.
- **Cost** points to the barriers that impede a student's ability to be successful on an assignment, activity and/or the course at large. Therefore, students might have success expectancies and perceive high task value, however, they might also be aware of obstacles to their engagement or a potential negative affect resulting in performance of the task, which could decrease their motivation.

<u>Three important questions to consider from the student perspective:</u>

1. Expectancy - Can I do the task?
2. Value - Do I want to do the task?
   - *Intrinsic or interest value*: the inherent enjoyment that an individual experiences from engaging in the task for its own sake.
   - *Utility value*: the usefulness of the task in helping achieve other short term or long-term goals.
   - *Attainment value*: the task affirms a valued aspect of an individual's identity and meets a need that is important to the individual.

3. Cost - Am I free of barriers that prevent me from investing my time, energy, and resources into the activity?

It's important to note that expectancy, value and cost are not shaped only when a student enters your classroom. These have been shaped over time by both individual and contextual factors. Each of your students comes in with an initial response, however there are strategies for encouraging student success, clarifying subject meaning and finding ways to mitigate costs that will increase your students' motivation. Everyone may not end up at the same level of motivation, but if you can increase each student's motivation, it will help the overall atmosphere and productivity of the course that you are teaching.

Strategies to Enhance Expectancy, Value, and Cost

Hulleman et. al (2016) summarize research-based sources that positively impact students' expectancy beliefs, perceptions of task value, and perceptions of cost, which might point to useful strategies that instructors can employ.

Research-based sources of expectancy-related beliefs

Expectancy source	Definition
Perceptions of ability/skill	When students perceive they have a high level of ability and/or skill at an activity, they are more likely to experience high expectancy (Bandura, 1997; Wigfield & Eccles, 2002).
Effort attributions	When students believe that their effort will lead to learning, they are more likely to experience high expectancy (Dweck & Leggett, 1988; Dweck, 1999; Weiner, 1972).
Success experiences	When students are successful at an activity, or watch others have success, they are more likely to experience high expectancy (Bandura, 1997; Eccles et al., 1983).
Support and scaffolding	When students are appropriately supported in completing an activity (e.g., through encouragement and having the resources necessary to complete the task), they are more likely to experience high expectancy (Bandura, 1997).
Clear expectations	When students know what is expected of them on an activity, and have clearly defined goals, they are more likely to experience high expectancy (Pajares, 1996).
Appropriate challenge	When the difficulty of the task or activity matches students' skill levels, they are more likely to experience high expectancy (Eccles et al., 1983).
Feedback	When students receive feedback that effort matters and skills are amenable to change and are task focused (rather than ability focused),

	they are more likely to experience high expectancy (Dweck & Leggett, 1988; Dweck, 1999).
Growth experiences	When students engage in learning activities that challenge them to grow and learn, and experience growth in their skills and performance improvements, they are more likely to experience both high expectancy and value (Dweck & Leggett, 1988; Dweck, 1999; Hong et al., 1999).
Perceptions of others' expectations	Parents' and teachers' expectancies and attitudes shape children'/students' expectancies; for instance, if teachers have high expectations for their students, these students in turn develop high expectancies (Bandura, 1997; Dweck & Leggett, 1988; Dweck, 1999; Eccles et al., 1983).
Perceived task difficulty	When students perceive a subject or task as being not difficult, they develop higher estimates of their own abilities for the subject or task (Bandura, 1997; Pajares, 1996; Wigfield & Eccles, 2002).
Stability attributions	When students attribute success to a stable factor (ability), then they will have higher expectations for future success; if they attribute it to an unstable factor (good luck), they will be uncertain about future success (Weiner, 2010).

Research-based sources of value

Value source	Definition
Intrinsic benefits	When students find the activities and academic content enjoyable and interesting, they are more likely to experience high value (Renninger & Hidi, 2011).
Relevance	When students are able to connect what they are learning to their personal lives and/or the real world, they are more likely to experience high value (Hulleman & Harackiewicz, 2009).
Context and rationale	When students understand that an activity is meaningful and has a purpose, they are more likely to experience high value (Lepper & Henderlong, 2000).
Variety and novelty	When students engage in activities that are varied and novel, they are more likely to experience high value (e.g., catch and hold interest; Hidi & Renninger, 2006).
Enthusiastic models	When students interact with teachers and other adults who are enthusiastic and passionate about learning, they are more likely to experience high value (Patrick, Hisley, & Kempler, 2000).
Growth experiences	When students engage in learning activities that challenge them to grow and learn, and experience growth in their skills and performance improvements, they are more likely to experience both high expectancy and value (Dweck & Leggett, 1988; Dweck, 1999; Hong et al., 1999).
Choice and control	When students feel a sense of control and choice over their learning, they are more likely to experience high value (Patall et al., 2010).
Positive relationships and sense of belongingness	When students experience meaningful student-student and student-teacher relationships, they are more likely to experience high value (Furrer & Skinner, 2003; Walton & Cohen, 2007).
Extrinsic benefits	When students receive external rewards and incentives for learning (e.g., prizes, food), they are more likely to experience high value to complete

an activity but low value to produce quality work (Marinak & Gambrell, 2008).

Research-based sources of cost

Cost source	Definition
Effort and time needed for the activity	When students feel that the workload is unreasonable (e.g., 5 hours/night) and/or unnecessary (e.g., busy work), they are more likely to experience increased cost (Parsons et al., 1980; Perez et al., 2014).
Effort and time needed for other competing activities	When student have too many other demands on their time or do not know how to effectively manage their time, they are more likely to experience high cost (Barron & Hulleman, 2015; Flake et al., 2015).
Loss of valued alternatives	When students feel like the learning activity is not worth their time compared to other things they might do (e.g., socializing), they are more likely to experience high cost (Conley, 2012; Perez et al., 2014).
Psychological and physical reactions to the activity	When students feel unsafe and uncomfortable, either physically or psychologically (e.g., nervous, bored, tired), they are more likely to experience high cost (Eccles et al., 1983; Ramirez & Beilock, 2011).

Sources:

- Barron K. E., & Hulleman, C. S. (2015). Expectancy-value-cost model of motivation. *International Encyclopedia of Social and Behavioral Sciences, 8*, 503-509.
- Hulleman, C. S., Barron, K. E., Kosovich, J. J., & Lazowski, R. A. (2016). Student motivation: Current theories, constructs, and interventions within an expectancy-value framework. In A. A. Lipnevich et al. (Eds.), *Psychosocial Skills and School Systems in the 21st Century*. Switzerland: Springer International Publishing.

ARCS Model of Instructional Design

The ARCS model of instructional design was created to improve the motivational appeal of instructional materials. The ARCS model is grounded in an expectancy-value framework, which assumes that people are motivated to engage in an activity if it's perceived to be linked to the satisfaction of personal needs and if there is a positive expectancy for success. The purpose of this model was to fill a gap in the motivation literature by providing a model that could more clearly allow instructors to identify strategies to help improve motivation levels within their students.

ARCS is an acronym that stands for four factors, according to the model, that influence student motivation: attention, relevance, confidence, and satisfaction.
- **Attention** refers to getting and sustaining student attention and directing attention to the appropriate stimuli.
- **Relevance** involves making instruction applicable to present and future career opportunities, showing that learning in it of itself is enjoyable, and/or focusing on process over product by satisfying students' psychological needs (e.g., need for achievement, need for affiliation).
- **Confidence** includes helping students believe that some level of success is possible if effort is exerted.

- **Satisfaction** is attained by helping students feel good about their accomplishments and allowing them to exert some degree of control over the learning experience.

To use the ARCS instructional design model, these steps can be followed:

1. *Define*
   a. Classify the problem
   b. Analyze audience motivation
   c. Prepare motivational objectives (i.e., identify which factor in the ARCS model to target based on the defined problem and audience analysis).

2. *Design*
   a. Generate potential motivational strategies for each objective
   b. Select strategies that a) don't take up too much instructional time; b) don't detract from instructional objectives; c) fall within time and money constraints; d) are acceptable to the audience; and e) are compatible with the instructor's personal style, preferences, and mode of instruction.

3. *Develop*
   a. Prepare motivational elements
   b. Integrate materials with instruction

4. *Evaluate*
   a. Conduct a developmental try-out
   b. Assess motivational outcomes

Strategies to Enhance Attention, Relevance, Confidence, and Satisfaction

Keller (1987) provides several suggestions for how instructors can positively impact students' attention, perceived relevance, confidence, and satisfaction.

Attention Strategies

Incongruity, Conflict
- Introduce a fact that seems to contradict the learner's past experience.
- Present an example that does not seem to exemplify a given concept.
- Introduce two equally plausible facts or principles, only one of which can be true.
- Play devil's advocate.

Concreteness
- Show visual representations of any important object or set of ideas or relationships.
- Give examples of every instructionally important concept or principle.
- Use content-related anecdotes, case studies, biographies, etc.

Variability
- In stand up delivery, vary the tone of your voice, and use body movement, pauses, and props.
- Vary the format of instruction (information presentation, practice, testing, etc.) according to the attention span of the audience.
- Vary the medium of instruction (platform delivery, film, video, print, etc.).
- Break up print materials by use of white space, visuals, tables, different typefaces, etc.
- Change the style of presentation (humorous-serious, fast-slow, loud-soft, active-passive, etc.).
- Shift between student-instructor interaction and student-student interaction.

Humor
- Where appropriate, use plays on words during redundant information presentation.
- Use humorous introductions.
- Use humorous analogies to explain and summarize.

Inquiry
- Use creativity techniques to have learners create unusual analogies and associations to the content.
- Build in problem solving activities at regular interval.
- Give learners the opportunity to select topics, projects and assignments that appeal to their curiosity and need to explore.

Participation
- Use games, role plays, or simulations that require learner participation.

Relevance Strategies

Experience
- State explicitly how the instruction builds on the learner's existing skills.
- Use analogies familiar to the learner from past experience.
- Find out what the learners' interests are and relate them to the instruction.

Present Worth
- State explicitly the present intrinsic value of learning the content, as distinct from its value as a link to future goals.

Future Usefulness
- State explicitly how the instruction relates to future activities of the learner.
- Ask learners to relate the instruction to their own future goals (future wheel).

Need Matching
- To enhance achievement striving behavior, provide opportunities to achieve standards of excellence under conditions of moderate risk.
- To make instruction responsive to the power motive, provide opportunities for responsibility, authority, and interpersonal influence.
- To satisfy the need for affiliation, establish trust and provide opportunities for no-risk, cooperative interaction.

Modeling
- Bring in alumni of the course as enthusiastic guest lecturers.
- In a self-paced course, use those who finish first as deputy tutors.
- Model enthusiasm for the subject taught.

Choice
- Provide meaningful alternative methods for accomplishing a goal.
- Provide personal choices for organizing one's work.

Confidence Strategies

Learning Requirements
- Incorporate clearly stated, appealing learning goals into instructional materials.
- Provide self-evaluation tools which are based on clearly stated goals.
- Explain the criteria for evaluation of performance.

Difficulty
- Organize materials on an increasing level of difficulty; that is, structure the learning material to provide a "conquerable" challenge.

Expectations
- Include statements about the likelihood of success with given amounts of effort and ability.
- Teach students how to develop a plan of work that will result in goal accomplishment.
- Help students set realistic goals.

Attributions
- Attribute student success to effort rather than luck or ease of task when appropriate (i.e., when you know it's true!).
- Encourage student efforts to verbalize appropriate attributions for both successes and failures.

Self-Confidence
- Allow students opportunity to become increasingly independent in learning and practicing a skill.
- Have students learn new skills under low risk conditions, but practice performance of well-learned tasks under realistic conditions.
- Help students understand that the pursuit of excellence does not mean that anything short of perfection is failure; learn to feel good about genuine accomplishment.

Satisfaction Strategies

Natural Consequences
- Allow a student to use a newly acquired skill in a realistic setting as soon as possible.
- Verbally reinforce a student's intrinsic pride in accomplishing a difficult task.
- Allow a student who masters a task to help others who have not yet done so.

Unexpected Rewards
- Reward intrinsically interesting task performance with unexpected, non-contingent rewards.
- Reward boring tasks with extrinsic, anticipated rewards.

Positive Outcomes
- Give verbal praise for successful progress or accomplishment.
- Give personal attention to students.
- Provide informative, helpful feedback when it is immediately useful.
- Provide motivating feedback (praise) immediately following task performance.

Negative Influences
- Avoid the use of threats as a means of obtaining task performance.
- Avoid surveillance (as opposed to positive attention).
- Avoid external performance evaluations whenever it is possible to help the student evaluate his or her own work.

Scheduling
- Provide frequent reinforcements when a student is learning a new task.
- Provide intermittent reinforcement as a student becomes more competent at a task.
- Vary the schedule of reinforcements in terms of both interval and quantity.

Source: Keller, J. M. (1987). Development and use of the ARCS model of instructional design. *Journal of Instructional Development, 10*, 2-10.

Self-Determination Theory

Self-determination theory (SDT) is a macro-theory of human motivation, emotion, and development that is concerned with the social conditions that facilitate or hinder human flourishing. While applicable to many domains, the theory has been commonly used to understand what moves students to act and persist in educational settings. SDT focuses on the factors that influence intrinsic and extrinsic motivation, which primarily involves the satisfaction of basic psychological needs.

Basic Psychological Needs

SDT posits that human motivation is guided by the need to fulfill basic psychological needs for autonomy, competence, and relatedness.

- **Autonomy** refers to having a choice in one's own individual behaviors and feeling that those behaviors stem from individual volition rather than from external pressure or control. In educational contexts, students feel autonomous when they are given options, within a structure, about how to perform or present their work.
- **Competence** refers to perceiving one's own behaviors or actions as effective and efficient. Students feel competent when they are able to track their progress in developing skills or an understanding of course material. This is often fostered when students receive clear feedback regarding their progression in the class.
- **Relatedness** refers to feeling a sense of belonging, closeness, and support from others. In educational settings, relatedness is fostered when students feel connected, both intellectually and emotionally, to their peers and instructors in the class. This can often be accomplished through interactions that allow members of the class to get to know each other on a deeper, more personal level.

Continuum of Self-Determination

SDT also posits that motivation exists on a continuum. When an environment provides enough support for the satisfaction of the psychological needs of autonomy, competence and relatedness, an individual may

experience self-determined forms of motivation: intrinsic motivation, integration, and identification. Self-determined motivation occurs when there is an internal perceived locus of causality (i.e., internal factors are the main driving force for the behavior). Integration and identification are also grouped as autonomous extrinsic motivation as the behavior is driven by internal and volitional choice.

Intrinsic motivation, which is the most self-determined type of motivation, occurs when individuals naturally and spontaneously perform behaviors as a result of genuine interest and enjoyment.

Integrated regulation is when individuals identify the importance of a behavior, integrate this behavior into their self-concept, and pursue activities that align with this self-concept.

Identified regulation is where people identify and recognize the value of a behavior, which then drives their action.

When an environment does not provide enough support for the satisfaction of autonomy, competence, and relatedness, an individual may experience non-self-determined forms of motivation: introjection and external regulation. Introjection and external regulation are grouped as controlled extrinsic motivation because people enact these behaviors due to external or internal pressures.

Introjected regulation occurs when individuals are controlled by internalized consequences administered by the individual themselves, such as pride, shame, or guilt.

External regulation is when people's behaviors are controlled exclusively by external factors, such as rewards or punishments.

Finally, at the bottom of the continuum is amotivation, which is lowest form of motivation.

Amotivation exists when there is a complete lack of intention to behave and there is no sense of achievement or purpose when the behavior is performed.

Below is a figure depicting the continuum of self-determination taken from Lonsdale, Hodge, and Rose (2009).
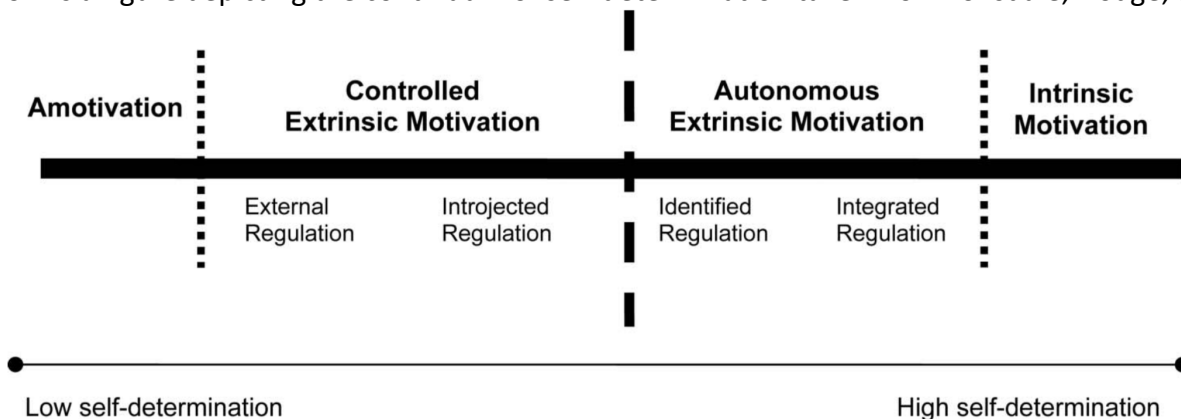
Although having intrinsically motivated students would be the ultimate goal, it may not be a practical one within educational settings. That's because there are several tasks that are required of students to meet particular learning objectives that may not be inherently interesting or enjoyable. Instead, instructors can employ various strategies to satisfy students' basic psychological needs, which should move their level of

motivation along the continuum, and hopefully lead to more self-determined forms of motivation, thus yielding the greatest rewards in terms of student academic outcomes.

Strategies to Enhance Autonomy, Competence, and Relatedness

Below are suggestions for how instructors can positively impact students' perceived autonomy, competence, and relatedness.

Autonomy Strategies
❖ Have students choose paper topics
❖ Have students choose the medium with which they will present their work
❖ Co-create rubrics with students (e.g., participation rubrics, assignment rubrics)
❖ Have students choose the topics you will cover in a particular unit
❖ Drop the lowest assessment or two (e.g., quizzes, exams, homework)
❖ Have students identify preferred assignment deadlines
❖ Gather mid-semester feedback and make changes based on student suggestions
❖ Provide meaningful rationales for learning activities
❖ Acknowledge students' feelings about the learning process or learning activities throughout the course
Competence Strategies
❖ Set high but achievable learning objectives
❖ Communicate to students that you believe they can meet your high expectations
❖ Communicate clear expectations for each assignment (e.g., use rubrics)
❖ Include multiple low-stakes assessments
❖ Give students practice with feedback before assessments
❖ Provide lots of early feedback to students
❖ Have students provide peer feedback
❖ Scaffold assignments
❖ Praise student effort and hard work
❖ Provide a safe environment for students to fail and then learn from their mistakes
Relatedness Strategies
❖ Share personal anecdotes
❖ Get to know students via small talk before/after class and during breaks
❖ Require students to come to office hours (individually or in small groups)
❖ Have students complete a survey where they share information about themselves
❖ Use students' names (perhaps with the help of name tents)
❖ Have students incorporate personal interests into their assignments
❖ Share a meal with students or bring food to class
❖ Incorporate group activities during class, and allow students to work with a variety of peers
❖ Arrange formal study groups
❖ Convey warmth, caring, and respect to students

Sources:
- Lonsdale, C., Hodge, K., & Rose, E. (2009). Athlete burnout in elite sport: A self-determination perspective. *Journal of Sports Sciences, 27,* 785-795.
- Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7,* 133-144.

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Additional Strategies for Motivating Students

Below are some additional research-based strategies for motivating students to learn.

- **Become a role model for student interest**. Deliver your presentations with energy and enthusiasm. As a display of your motivation, your passion motivates your students. Make the course personal, showing why you are interested in the material.
- **Get to know your students.** You will be able to better tailor your instruction to the students' concerns and backgrounds, and your personal interest in them will inspire their personal loyalty to you. Display a strong interest in students' learning and a faith in their abilities.
- **Use examples freely.** Many students want to be shown why a concept or technique is useful before they want to study it further. Inform students about how your course prepares students for future opportunities.
- **Use a variety of student-active teaching activities.** These activities directly engage students in the material and give them opportunities to achieve a level of mastery.
    - Teach by discovery. Students find it satisfying to reason through a problem and discover the underlying principle on their own.
    - Cooperative learning activities are particularly effective as they also provide positive social pressure.
- **Set realistic performance goals** and help students achieve them by encouraging them to set their own reasonable goals. Design assignments that are appropriately challenging in view of the experience and aptitude of the class.
- **Place appropriate emphasis on testing and grading.** Tests should be a means of showing what students have mastered, not what they have not. Avoid grading on the curve and give everyone the opportunity to achieve the highest standard and grades.
- **Be free with praise and constructive in criticism.** Negative comments should pertain to particular performances, not the performer. Offer nonjudgmental feedback on students' work, stress opportunities to improve, look for ways to stimulate advancement, and avoid dividing students into sheep and goats.
- **Give students as much control over their own education as possible.** Let students choose paper and project topics that interest them. Assess them in a variety of ways (tests, papers, projects, presentations, etc.) to give students more control over how they show their understanding to you. Give students options for how these assignments are weighted.

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- Nilson, L. (2016). *Teaching at its best: A research-based resource for college instructors* (4th ed.). San Francisco, CA: Josey-Bass.