

## Intrinsic Motivation

**Intrinsic motivators** include fascination with the subject, a sense of its relevance to life and the world, a sense of accomplishment in mastering it, and a sense of calling to it.

Students who are intrinsically motivated might say things like the following.

- “Literature interests me.”
- “Learning math enables me to think clearly.”
- “I feel good when I succeed in class.”

**Advantages:** Intrinsic motivation can be long-lasting and self-sustaining. Efforts to build this kind of motivation are also typically efforts at promoting student learning. Such efforts often focus on the subject rather than rewards or punishments.

**Disadvantages:** On the other hand, efforts at fostering intrinsic motivation can be slow to affect behavior and can require special and lengthy preparation. Students are individuals, so a variety of approaches may be needed to motivate different students. It is often helpful to know what interests one’s students in order to connect these interests with the subject matter. This requires getting to know one’s students. Also, it helps if the instructor is interested in the subject to begin with!

Source: DeLong, M. & Winter, D. (2002). *Learning to teaching and teaching to learn mathematics: Resources for professional development*, Mathematical Association of America.

## Extrinsic Motivation

**Extrinsic motivators** include parental expectations, expectations of other trusted role models, earning potential of a course of study, and grades (which keep scholarships coming).

Students who are extrinsically motivated might say things like the following.

- “I need a B- in statistics to get into business school.”
- “If I flunk chemistry, I will lose my scholarship.”
- “Our instructor will bring us donuts if we do well on today’s quiz.”

**Advantages:** Extrinsic motivators more readily produce behavior changes and typically involve relatively little effort or preparation. Also, efforts at applying extrinsic motivators often do not require extensive knowledge of individual students.

**Disadvantages:** On the other hand, extrinsic motivators can often distract students from learning the subject at hand. It can be challenging to devise appropriate rewards and punishments for student behaviors. Often, one needs to escalate the rewards and punishments over time to maintain a certain effect level. Also, extrinsic motivators

typically do not work over the long term. Once the rewards or punishments are removed, students lose their motivation.

Source: DeLong, M. and Winter, D. (2002). *Learning to Teach and Teaching to Learn Mathematics: Resources for Professional Development*. Mathematical Association of America.

Furthermore, research indicates that **extrinsic rewards can have a negative impact on intrinsic motivation**. In one series of experiments, psychologist Edward Deci had two groups of college students play with a puzzle called Soma. One group of students was paid for each puzzle they solved; the other wasn't. He found that the group that was paid to solve puzzles stopped solving puzzles as soon as the experiment—and the payment—ended. However, the group that wasn't paid kept solving the puzzles even after the experiment was over. They had found the puzzles intrinsically interesting. Deci argued that the group that had been paid to solve puzzles might have found the puzzles intrinsically interesting as well, but the extrinsic, monetary reward had reduced their intrinsic interest.

Source: Bain, K. (2004). *What the best college teachers do*. Harvard University Press.

## Effects of Motivation on Learning Styles

- **Deep learners** respond well to the challenge of mastering a difficult and complex subject. These are intrinsically motivated students who are often a joy to teach!
- **Strategic learners** are motivated primarily by rewards. They react well to competition and the opportunity to best others. They often make good grades but won't engage deeply with a subject unless there is a clear reward for doing so. They are sometimes called "bulimic learners," learning as much as they need to do well on a test or exam and then promptly forgetting the material once the assessment is over. Handle strategic learners by avoiding appeals to competition. Appeal to their intrinsic interest in the subject at hand. Design your assignments (tests, papers, projects, etc.) so that deep engagement with the subject is necessary for success on the assignments. Do so by requiring students to apply, synthesize, or evaluate material instead of merely comprehending or memorizing material.
- **Surface learners** are often motivated by a desire to avoid failure. They typically avoid deep learning because they see it as inherently risky behavior. They will often do what it takes to pass an exam or course, but they won't choose to go beyond the minimum required for fear of failure. Handle surface learners by helping them gain confidence in their abilities to learn and perform. "Scaffold" course material and assignments by designing a series of activities or assignments that build on each other over time in complexity and challenge. Encourage these learners often and help them reflect on what they've learned and what they've accomplished.

Source: Bain, K. (2004). *What the best college teachers do*. Harvard University Press.