The role of motivation in learning

Motivation, as the name suggests, is what 'moves' us. It is the reason we do anything at all. For teachers, a lack of motivation has long been one of the most frustrating obstacles to student learning. While the concept of motivation may intuitively seem fairly simple, a rich research literature has developed as researchers have defined this concept in a number of ways. Social scientists and psychologists have approached the problem of motivation from a variety of different angles, and education researchers have adapted many of these ideas into the school context. While there is a great deal of overlap between motivation theories, researchers differ in their identification of the underlying belief systems leading to motivational variation. Some theorists emphasise belief in oneself and one's competency, others prioritise goal orientation, and a third group argues that the difficulty of the task shapes individual motivation. This resource will provide an introduction to various theories of motivation, explain the importance of motivation for learning, and outline several practical strategies that teachers can use to support and promote student motivation.

Theories of motivation

Intrinsic vs. extrinsic

A common distinction made in the literature is between extrinsic and intrinsic forms of motivation. Intrinsic motivation is the act of doing an activity purely for the joy of doing it, and it is frankly very rare in school and work contexts. Extrinsic motivation, or the use of external rewards or punishments to encourage student work completion, is generally painted in education as the enemy of good instruction. This is true to a certain extent because, as learning is comparable to exploration, the use of rewards or punishments tends to outline a boundary around how much a student should explore.

However, there are actually many different forms of extrinsic motivation, and not all are equally likely to lead students down a path of apathy and dissociation from the joy of learning. For example, one extrinsically motivated student may work hard in school because they fear failure and the anger of their parents. Another may study hard because they see the value of the content in helping them work toward their dream of becoming a doctor. Neither student in these examples is intrinsically motivated - their goals lie outside the simple enjoyment of the activity. However, the second student is likely to be more independent and self-guided in their learning because they recognise the value of these extrinsic rewards. This form of motivation is much more sustainable because it does not require constant threats or prizes from teachers or parents. There is also some research to suggest that extrinsic motivation can lead to intrinsic motivation, in the sense that students may embark on a task for reasons associated with extrinsic motivation but become intrinsically motivated through the process of engaging with the task and learning to value it.

Achievement Goal Theory

Achievement Goal Theory argues that all motivation can be linked to one's orientation towards a goal. According to this theory, there are two forms of goal: performance goals and mastery goals. Performance goals are based on satisfying one's ego by appearing smart in front of one's peers or on achieving a sense of superiority. Mastery goals are, as they sound, motivated by a desire to fully master a skill or concept. Students with mastery goals will finish a project when they are proud of it rather than when

it meets the minimum requirements. Even after they turn in the assignment to be assessed, they may continue to reflect on it and make refinements. Mastery goals largely align with intrinsic motivation in the former theory.

Some researchers in education have broken the concept of Achievement Goal Theory down further, borrowing the idea of approach and avoidant behavior from psychology. As the name suggests, students with approach performance goals actively seek to outperform others while those with avoidant performance goals actively work to avoid being seen as inferior. While less studied, approach and avoidant orientations also apply to mastery goals as well.

Expectancy Value Theory
Goal orientation has a strong impact on persistence through a rigorous task, as described in Expectancy Value Theory. According to this model, expectations and values influence performance and task choice directly. There are two main components to this theory. First, a student's effort, the level of challenge they choose and ultimately their performance will follow their expectation of success or failure. Second, the extent to which a student values learning a skill or concept directly impacts their effort and mastery of that skill or concept. Expectations and values themselves are influenced by beliefs about one's competence (otherwise known as self-efficacy) and by beliefs about the difficulty of the task. If the student remembers doing well or feeling satisfied when completing a similar task in the past, they are more likely to push themselves to work hard on the current task. However, if the student remembers that the activity was too difficult to be completed and they became frustrated, or not difficult enough and they became bored, they are unlikely to engage with it.

These beliefs, goals, and memories are also affected by a student's beliefs of other people's attitudes towards and expectations for them, and by their own interpretations of their previous achievement outcomes. Children's perceptions and interpretations are influenced by a broad array of social and cultural factors, and especially by parents and teachers.

Flow Theory
Flow is described as a psychological state in which an individual is purely intrinsically motivated and in which their sense of time is muted. Students experience flow during mastery-oriented tasks. This state is accompanied by a lessening of self-conscious thoughts and feelings. While there are many different psychological states that a student can experience throughout the learning process, such as wonder, confusion, worry and helplessness, flow is the most effective state of learning. Not only do students learn a great deal while experiencing flow because their learning is internally motivated, but they will continue without constant teacher prodding. These students will continue the learning process beyond the minimum requirements, or even outside the confines of the school context. Flow is said to occur within 'Goldilocks' conditions: tasks that are too difficult for the student will engender frustration and helplessness, while tasks that are too easy will cause the student to feel bored, and both these states of mind lead to disengagement from the activity. When possible, differentiation for individual student ability allows students to practise skills and concepts that are just within their current ability.

Nature versus nurture
Each of these theories points to the malleability of motivation. While natural genetic variability will lead to differences in a student's innate drive, every student has the desire to reach their goals. Our task as teachers, then, is to apply what we know from social science research to create environments, instruction, and activities to cultivate student motivation.

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Some theorists classify motivation as a stable trait of the person, while others consider it to be more task specific. Individual-specific motivation describes the orientation with which all activities are approached, while task-specific motivation is dependent upon the appeal of the activity. Both forms can be improved through positive reinforcement, just-difficult-enough tasks, mastery-oriented goals and plenty of opportunities for success, as research indicates that even small initial successes are motivating for students. Individual-specific motivation is not the same as genetic predisposition to be a motivated person. Any individual can garner a more motivated outlook through specific supports and strategies. This resource focuses on motivation as an individual-specific trait because the research for this argument is fairly compelling, and because efforts to improve motivation of a person as a whole rather than towards one activity has greater potential impact.

Why is motivation important?

First and foremost, motivation is an orientation towards learning. Therefore, it impacts how likely a student is either to give up or push forward, and how thoughtful their reflection on their learning will be. The deeper the motivation for pursuing an activity, the more likely that the student will not accept easy answers to complex questions. In short, intrinsic motivation fosters strong and flexible critical thinking skills. On the other hand, amotivation and purely extrinsic motivation lead to low interest and academic persistence.

Motivation fosters creativity and critical thinking

Students who are intrinsically motivated treat learning like play. As a result, they are more likely to flip the learning on its head to see it from a new angle. Motivated students are not more intelligent than unmotivated students, but their need to find out the answer to a question or to master a concept pushes their thinking. Intrinsically motivated students will think about questions far beyond the confines of the classroom, because the presence of the teacher or the fear of a low grade are not the underlying drivers for their thinking. Therefore, motivated students, by virtue of thinking longer and harder and enjoying the challenge of being confused, will ask deeper, more thought-provoking questions. Motivated students are more able to adapt learned content to new situations because they tend to reflect on underlying causes or frameworks.

Motivation cultivates resilience and self-assurance

When a student is truly engrossed in a task, they have less cognitive and emotional energy to focus on social image. Individuals who engage in intrinsically motivating activities report that their self-consciousness and other stressors tends to fade for the period of the activity. Motivated students are also more able to emotionally 'bounce back' from a low grade on a test or a harsh criticism from a teacher or peer. Because intrinsically motivated students are not driven by fear of failure or criticism, they are less likely to disengage in such circumstances. With that said, every student does feel the demotivating effects of negative feedback, even if driven students experience them to a lesser extent.

Motivation and agency

Agency may be defined briefly as a sense of purpose and autonomy in striving after one's goals. Agency and motivation are inextricably linked concepts because, as a student becomes more driven to reach a goal, they consequently develop a stronger sense of purpose in directing their energy towards that goal. When it comes to educational attainment, highly motivated students find a way to forge their own path and tend to be skeptical of the limitations set by others. As professionals, motivated individuals also tend to be skeptical of established ideas or rules of the field, and instead constantly challenge themselves by experimenting with new ideas.

How do we cultivate motivation?

While the above theories may differ in emphasis, each can support student motivation through the following practical applications.

Practise growth mindset

Students who feel like they will improve through hard work will exert more effort than those who believe that their success is based on intelligence. Teaching students to use the phrase 'yet' when explaining their gaps in knowledge helps to move them away from this deterministic orientation. For example, if a student says 'I can't do that', suggest that 'you can't do that, YET'. Making a conscious effort to provide wait time also removes the pressure of needing to be the first to find the answer. When students come to realise that their teacher will always wait 5 seconds or so before calling on a student rather than always calling on the first hand up, they will be more likely to engage with the struggle of thinking through the problem. Finally, by keeping the emphasis on progress rather than scores, growth mindset pushes students to continually challenge themselves and reflect on their improvement. Even small improvements and successes can help to spur a student's motivation.

Encourage self-efficacy

Students who are paralysed by low academic self-confidence will struggle to drive their own motivation. A sense of competence is enhanced through optimal challenges. These are also referred to as 'just right' challenges because they are difficult enough to be just above the student's current ability to work independently but easy enough for the student to follow along with the teacher. As the student practises this new skill or concept, the teacher slowly removes their structured support, making it more and more difficult. This slow removal of support, paired with positive reinforcement and opportunities to receive support along the way, keeps students at this level of optimal challenge as they improve. Consistent small successes will further enhance motivation.

In addition, most of us can relate to the value of being reassured of one's own competence to learn a skill or concept. Students often base their view of their own competence on how they believe their teacher views them. Therefore, teacher observations of student effort encourage a sense of competence, as well as pointing out how far the student has come in their learning. When students have a firm sense that they are regarded as competent, they will be more likely to treat learning like play, making mistakes and taking risks. Threats and unyielding deadlines tend to diminish this orientation towards play-like learning.

Normalise the struggle

Students may give up because they falsely believe that, if they were going to succeed, it would be easy. Teachers can disentangle this misconception by providing examples of failures that well-known individuals overcame along their journey towards success. Emphasising the value of asking for help may catch students who are falling behind and becoming disengaged from the material. Finally, modeling the struggle through your own words and actions can be a powerful example to students. One phrase that may be useful when students seem to lose motivation for a difficult task is: 'This is new, this is hard, and if you get it wrong the first time then the challenge is simply to figure out why and to carry on.'

Minimise competition when there is one right answer

A pressure to compete tends to diminish motivation unless the two students are and perceive themselves to be equally competent: if a student at the top of the class is pitted against a student who is struggling, the latter student may feel that there is no reason to try. This is not to say that class or school-wide competitions should be avoided. When broader competitions are more open-ended, students can creatively self-guide their projects, and will feel a stronger sense of intrinsic motivation.

Develop optimally challenging, mastery-oriented goals

Differentiating tasks so they are appropriately challenging allows students to maintain optimal engagement. When students are working just within their current ability, they are drawn in by their curiosity to find the answer and spurred by the belief that they can find the answer. Teachers can also encourage students to set authentic learning goals rather than performance goals. Students can practise using mastery-orientation language when writing weekly, monthly, or long-term goals. Goals that begin 'to learn…', 'to understand…', or 'to master… [a particular skill]' support this orientation, while goals such as 'to get… grade', 'to earn more points than last quiz' or 'to meet my parent's goal of…' all express performance goals. Teachers can reinforce mastery-orientation by modeling it in their own goal setting.

Create quiet space

Despite the popular idea that fidgets or music support student focus, brains generally need quiet or ambient noise to stay engaged. Higher level brain functions such as creativity and critical thinking are inextricably linked to a state of flow, so students who are constantly interrupted will never be able to reach this level of highly motivated thinking. Therefore, independent and collaborative work should occur at separate times, or in separate spaces if they must occur simultaneously.

Avoid tangible rewards

Some learning is simply not particularly interesting, and no amount of differentiation can make every learning experience enjoyable for every student all of the time. External rewards such as long-term career goals and teacher approval are realistic external rewards that teachers can use. However, when deciding whether to use external motivation, it is important to keep certain principles in mind. Tangible rewards are often counterproductive, and the more external the reward, the less inherently valuable the student will find the activity. Even when students complete an activity for the inherent value they see in it, and are given an unexpected reward, they later regard their motivation for doing the activity as more extrinsically motivated than students who were not given a reward.

Acknowledge but don't dwell on potential hurdles

Students who believe that they can succeed are more likely to reach their goals. However, it is important that students consider what may go wrong in order to avoid being emotionally devastated when they encounter setbacks. In fact, letting students know that they will encounter setbacks, and that they are entirely normal, takes away some of their sting in the moment. In addition, students who consider hurdles before taking on a challenge are able to make a plan regarding how to continue moving forward. It is deeply valuable to emphasise to students that obstacles will always come up, but that what is important is to learn from these obstacles rather than to dwell on them.

Measuring motivation

Periodically evaluating students' social-emotional learning serves the dual purpose of informing the teacher of their students' progress and wellbeing, and prompting students to practise self-awareness. While formal school-wide social-emotional assessments are valuable for collecting comprehensive data, these measures are time-consuming and cannot practically be implemented more than once or twice each year. For these formal assessments, one reliable measure with strong evidence of validity is the Panorama Social-Emotional Learning Survey. However, on a fortnightly or monthly basis, teachers can informally gauge student motivation by asking the following questions:

How often do you do the following? Write a 1-10 next to each response (1=Not Often; 10=Very Often)

1. Choose to work above and beyond what is expected   _____

2. Stick with a task until it is completed   _____

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3. Attempt to solve problems that others have difficulty with _____

4. Hurry through assignments _____

5. Ask questions to better understand difficult concepts _____

6. Try to avoid competitive situations _____

7. Put forth minimum effort _____

8. Do something over again just to get it right _____

These questions are suitable for verbal or written check-ins. When scoring written check-ins, items 4, 6, and 7 should be reverse-scored.

It is also prudent to consider not only the level of motivation a student has but their form of motivation. Is the student more intrinsically or extrinsically motivated, or somewhere in between? With this knowledge, we can use the above strategies to nudge the students towards more internal motivation by developing their sense of competency and control over their learning, as well as doing what we can to draw students in with interesting content.

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