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HOW LEARNING WORKS

a playbook

CORWIN
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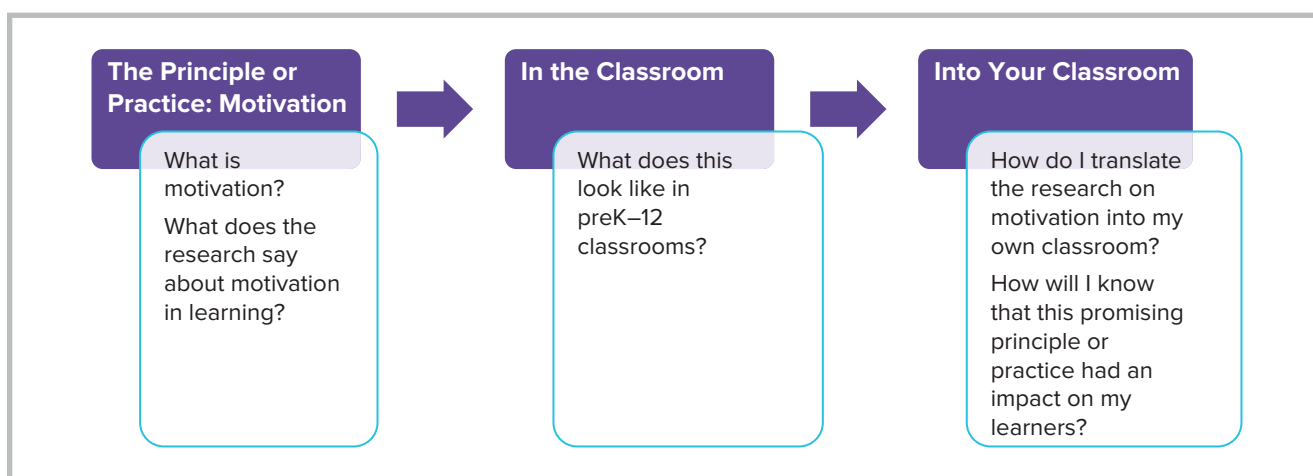
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PROMISING PRINCIPLE 1: MOTIVATION

As we move into our first promising principle or practice derived from the science of learning, we want to recall how we plan on tackling each of these ideas and translating them to our own classrooms (see Figure 5.1).

5.1 **A FRAMEWORK FOR TRANSLATING THE SCIENCE OF LEARNING AND MOTIVATION INTO A PROMISING PRINCIPLE OR PRACTICE**

The Principle or Practice: Motivation

What is motivation?

What does the research say about motivation in learning?

In the Classroom

What does this look like in preK–12 classrooms?

Into Your Classroom

How do I translate the research on motivation into my own classroom?

How will I know that this promising principle or practice had an impact on my learners?

In this module, along with Modules 6–11, we will take an overview of the research on motivation and the science of learning. From there, we will look at specific examples of how classrooms have translated this research into promising principles and practices with a close look at how classrooms have monitored the impact of these principles and practices on student learning. Then, we will develop ways to translate research on motivation into the local context of our own, individual classrooms.

LEARNING INTENTION

We are learning about the role of motivation in my students' investment in learning.

SUCCESS CRITERIA

I will know we have successfully completed this module when

- I can describe what is meant by motivation.
- I can explain the different ways of thinking about motivation in my classroom.
- I can develop specific ways to apply research on motivation into my classroom and evaluate the impact of this application.
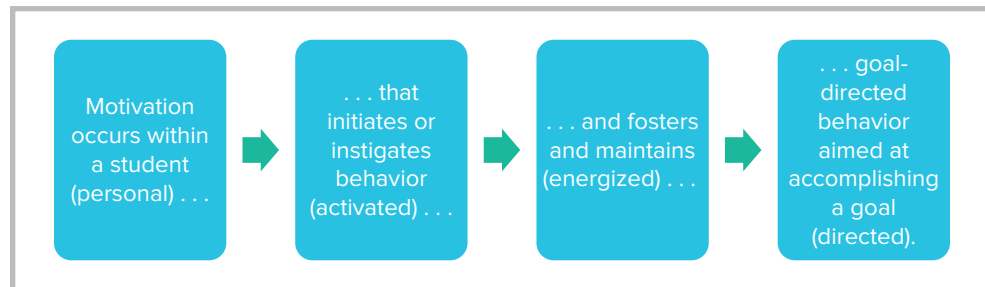
WHAT IS MOTIVATION?

Motivation is an overarching term that refers to the reason or reasons associated with a particular action. In classrooms, this refers to the general desire of learners to engage in the learning experiences or tasks. This may also reflect the willingness of learners to uphold the expectations for being a member of the classroom learning community (e.g., norms and processes for social interactions, moving from one area of the classroom or building to another). Motivation is an essential component of the science of how we learn simply because the learning expected in our classrooms will only move forward if learners have the desire or willingness to commit the necessary effort to acquire, consolidate, and store declarative, procedural, and conditional knowledge.

What motivates your learners? Use the space provided to develop a list or description of what motivates your students in your classroom.

So, when it comes to motivating students to engage in learning about equivalence, over-hand throwing, figurative language, right triangle trigonometry, or soil chemistry, there are four components that manifest as the reasons, desires, and willingness to exert the effort necessary for learning. These four components are *personal, activated, energized,* and *directed* (see Figure 5.2).

5.2   THE FOUR COMPONENTS OF MOTIVATION

Motivation occurs within a student (personal) . . . → . . . that initiates or instigates behavior (activated) . . . → . . . and fosters and maintains (energized) . . . → . . . goal-directed behavior aimed at accomplishing a goal (directed).

Source: Adapted from Mayer (2011).

The research on motivation brings forward several findings that will help us translate research from the science of learning into a promising principle or practice:

1. **Interest/Attitude (Effect Size = 0.46).** Learners show increased motivation in putting forth effort in the acquisition, consolidation, and storage of learning when that learning is of interest to them and toward which they have a positive attitude (Visible Learning Meta[X], 2021).

2. **Self-Efficacy (Effect Size = 0.66).** Learners are motivated by the belief that their efforts in learning will pay off or provide some immediate or long-term benefit to them (Visible Learning Meta[X], 2021).

3. **Effort-Based Attributions/Student Expectations (Effect Size = 0.77).** If learners are able to link their efforts in learning to specific outcomes, both positive and negative, they are more likely to put forth effort in succeeding in their learning (Visible Learning Meta[X], 2021).

4. **Deep Motivation (Effect Size = 0.57).** Deep motivation occurs when our learners want to develop competency, mastery, and deeper understanding to have a fuller understanding of overall content, skills, and understandings (Visible Learning Meta[X], 2021).

5. **Cooperative Learning (Effect Size = 0.46).** A pedagogical strategy through which two or more learners collaborate to achieve a common goal. Typically, cooperative learning programs seek to foster positive interdependence through face-to-face interactions, hold individual group members accountable for the collective project, and develop interpersonal skills among learners (Visible Learning Meta[X], 2021).

6. **Prior Achievement/Success (Effect Size = 0.59).** As learners have mastery experiences or experience success in a specific area, their motivation to further engage and persist in future learning experiences or tasks goes up. Prior achievement and success help builds learners' efficacy, raise expectations, and improve their overall attitude and dispositions toward learning (Visible Learning Meta[X], 2021).

online resources

For more resources related to motivation, visit the companion website at resources.corwin.com/howlearningworks.

Return to the list or description of what motivates the students in your classroom. Organize that list based on the findings on the facing page. Which ones are examples of interest/attitude? Self-efficacy? Expectations or deep motivation? What about cooperative learning? Use the space to organize your thinking.

WHAT DOES THIS PRINCIPLE OR PRACTICE LOOK LIKE IN THE CLASSROOM?

Before we dive into specific examples, we want to take a moment and talk about the motivation for extracting promising principles or practices from the science of learning. Promising principles and practices are often sought because of a recognized problem of practice. Consider the following problems of practice identified by teachers we have the pleasure of interacting with on a regular basis:

➡ "My learners never remember the basic formulas for find the area and perimeter of irregular polygons."

➡ "My students always forget to cite evidence from the text when responding to text-based questions."

➡ "When students are involved in physical activity, I am always reminding them of how to operate in a safe space."

➡ "They never study. I can barely even get them to ask questions before the test."

PROMISING PRINCIPLES AND PRACTICES ARE OFTEN SOUGHT BECAUSE OF A RECOGNIZED PROBLEM OF PRACTICE.

➜ "My students don't seem to want to talk. When I ask them to engage in a think-pair-share, they so often sit in silence and wait for time to pass."

➜ "My high schoolers won't read. I can ask them to read a novel, but they find every way possible to avoid having to read it."

➜ "My learners view themselves as 'bad at art.' This way of thinking interferes with their willingness to devote time and effort to their art projects. They rush through tasks and attribute their poor performance to their belief that they are 'bad at art.'"

Each of the above examples indicates a particular challenge or problem in the classroom that would motivate you and me to actively seek to solve. Thus, we will dig into the science of learning and look for possible findings that can be translated into practice and improved learning outcomes.

Take a moment and return to the examples of problems of practice. Circle, highlight, or underline the problems of practice that you believe are linked to motivation. The hard part is that many of these could be linked to motivation, while also being linked to other challenges (e.g., fear, misconceptions, prior knowledge, selective attention, or working memory). That is the beauty of this playbook: in addition to unpacking these promising principles and practices, we will devote time to developing ways of measuring our impact. In other words, was the challenge or problem of practice really about motivation, or something else? If it was something else, we will have to dig further and try other promising practices. But for now, let's look at some examples of how research on motivation and the science of learning can be extracted and applied to the problems of practice listed above (see Figure 5.3).

5.3 EXTRACTING PROMISING PRINCIPLES AND PRACTICES FROM MOTIVATION RESEARCH TO THE CLASSROOM

Problem of Practice	Potential Promising Principle or Practice	Ways to Evaluate the Impact	Link to the Research on the Science of Learning
"My learners never remember the basic formulas for find the area and perimeter of irregular polygons."	Rather than pure memorization, the teacher taught learners how to derive the formulas so that they had a deep understanding of not just what the formulas were, but why they were what they were.	Student work samples before and after the intervention; did the learners provide more details in their work or explanations of their work?	Deep Motivation
"My students always forget to cite evidence from the text when responding to text-based questions."	To motivate learners to commit more effort to this particular aspect of the learning, the teacher implements "proofreading pals" that provide feedback on their responses to text-based questions.	In-class tasks and exit tickets; did learners cite evidence in their independent tasks more frequently after working with their "proofreading pals"?	Cooperative Learning With Peers

| Problem of Practice	Potential Promising Principle or Practice	Ways to Evaluate the Impact	Link to the Research on the Science of Learning
"When students are involved in physical activity, I am always reminding them of how to operate in a safe space."	The teacher provided hula-hoops for her and her learners to stand in during instruction. Together, both the teacher and learners worked on developing a sense of their safe space.	Classroom observation and the number of reminder slips during physical education block; did learners increase their self-monitoring of their safe space?	Cooperative Learning With the Teacher
"They never study. I can barely even get them to ask questions before the test."	The teacher provided video recordings of previous students describing their study habits and how they helped them succeed in their learning. Then, the teacher explicitly taught those strategies to the learners.	Student survey asking about their study habits before and after the intervention and student performance on assessments; did learners report using more effective study habits? Did the use of the study habits correlate with their performance on the assessment?	Effort-Based Attributions and Student Expectations
"My students don't seem to want to talk. When I ask them to engage in a think-pair-share, they so often sit in silence and wait for time to pass."	This classroom teacher developed a series of tasks that tapped into students' interests as a practice for motivating them to engage in classroom discussion.	Classroom observation; using a checklist, did learners engage in more dialogue, using academic vocabulary?	Interest/Attitude
"My high schoolers won't read. I can ask them to read a novel, but they find every way possible to avoid having to read it."	The English Department implemented goal setting and reading logs to encourage students to divide up their reading into smaller, more manageable chunks.	Progress monitoring of the reading logs; was there a change in the time devoted to reading? Did the nature of classroom discussions about the reading change?	Self-Efficacy
"My learners view themselves as 'bad at art.' This way of thinking interferes with their willingness to devote time and effort to their art projects. They rush through tasks and attribute their poor performance to their belief that they are 'bad at art.'"	This classroom teacher decides to explicitly teach specific techniques and elements of art, providing opportunities to develop these techniques. This also helps learners experience success and recognize that they can be successful.	Use student work before and after the explicit instruction of techniques; ask learners to describe their process and how the process leads to the specific piece of artwork. Do learners begin to approach their artwork as a process and not simply a task to complete? What language do they use to talk about their artwork and themselves as an artist?	Prior Achievement/Success

Looking at the examples in the first column of Figure 5.3, there is a possibility, as we noted, that the challenge is not related to motivation, but to some other aspect of acquiring, consolidating, and storing learning. How will you know if the principle or practice related to motivation worked? Well, as you can see in the third column, we must generate and gather evidence that will help us answer the question. This is known as evaluative thinking and is a key component of successfully implementing what works best in learning.

Evaluative Thinking About Learning

1. What is the learner ready to learn, and what evidence supports this?

2. What are possible interventions from the science of learning?

3. What is the expected impact and how will this be measured?

4. How will the possible intervention from the science of learning be implemented in my classroom with my learners (i.e., adaptations based on the local context)?

5. Did the intervention have an impact?

6. How do I collaborate with colleagues and peers to interpret the evidence of impact?

Source: Adapted from Rickards et al. (2021).

We have captured and rephrased questions 2–5 of evaluative thinking in a template for you to use in your own classroom and with your colleagues and learners. Why the change in questions? Well, we wanted to provide guiding questions for you and your accountability partner, instructional coach, or PLC+. These questions direct our focus on applying promising principles with intention and purpose—moving learning forward through a challenge or problem of practice. Let's give it a try.
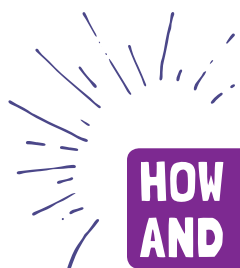
HOW DO WE IMPLEMENT THIS PRINCIPLE AND PRACTICE INTO OUR CLASSROOMS?

Use the next pages to map out your own challenge of problem of practice. You can return to Figure 5.3, column 4, for examples of an aspect of the learning in your classroom that you might want to focus on.

Challenge or Problem of Practice:

What evidence do you have that this is a challenge or problem of practice with your learners (e.g., observations, conversations, entrance tickets, exit tickets, attendance data, assignment submission)?

Describe the promising principle or practice you want to use.

Link the promising principle or practice to research from the science of learning on motivation. Refer back to the previous information in this module if necessary.

Describe, in as much detail as possible, how you will implement this promising principle or practice. Again, refer back to Figure 5.3 for examples.

How will you collaborate with your accountability partner, instructional coach, or PLC+ team to determine if your promising principle or practice worked? What evidence would convince you and your colleagues that the principle or practice did not work?

Motivation is an aspect of learning that will need continuous monitoring and adjusting. What is an impetus for effort on Monday may not be as effective on Wednesday. What moves learners to devote resources to learning in the morning may not do the same later in the day. If we are to have great learning by design, a reflective process will need to become a regular part of learning.

>>> Checks for Understanding

Take a moment and return to the success criteria for this module. As you have done in the previous modules, respond to the following questions by "showing what you know."

Know	Show (Generate a response to the question that "shows what you know")
Can I describe what is meant by motivation?	
Can I explain the different ways of thinking about motivation in my classroom?	
Can I develop specific ways to apply research on motivation into my classroom and evaluate the impact of this application?	

However, we cannot simply stop at motivation. Once we have created a general desire of learners to engage in the learning experiences or tasks, we must move our attention to what they are paying attention to in the experience or task—the topic of the next module.