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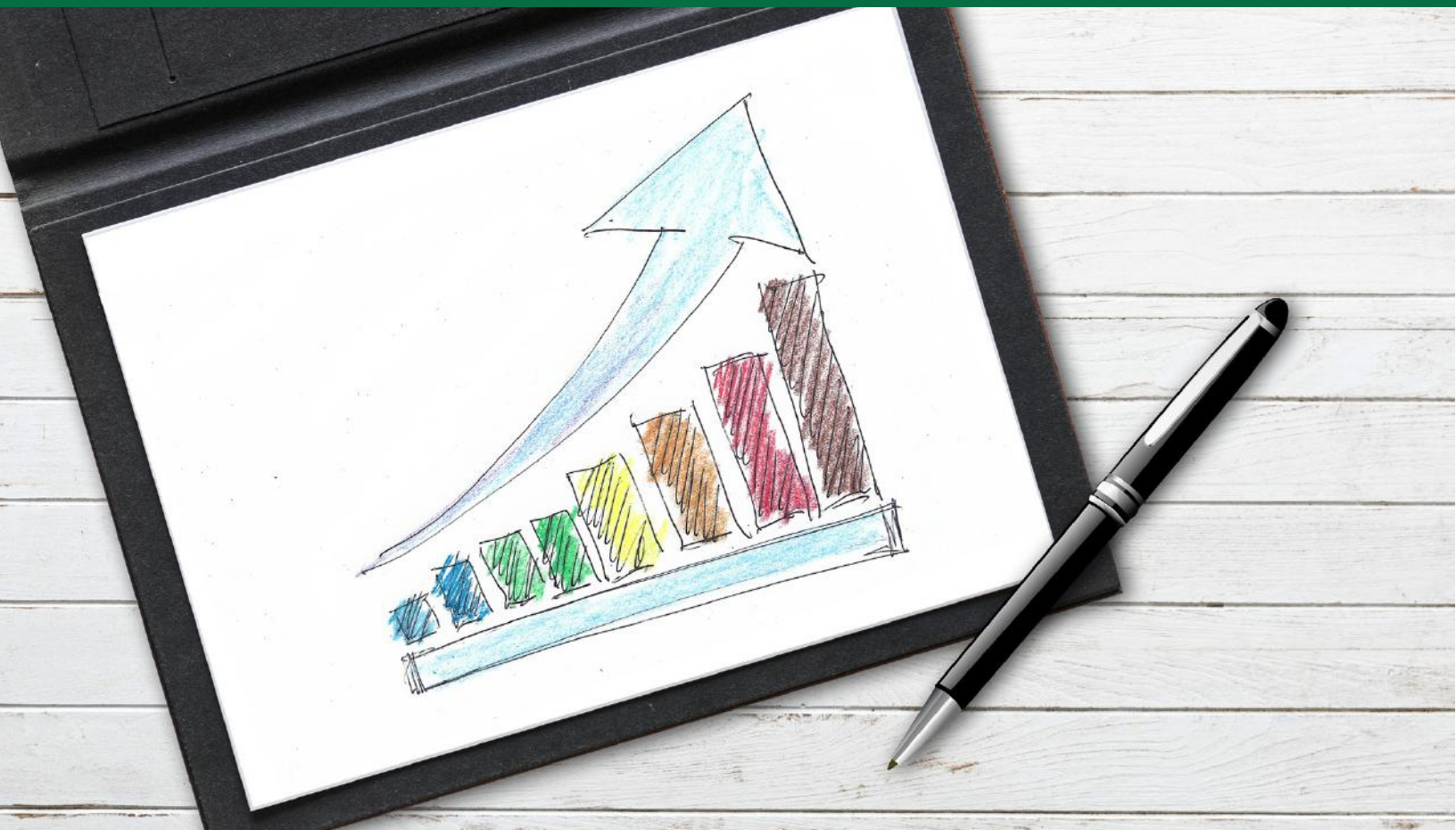
CEUs for Teachers and Educators

Evaluating Current Educational Trends and Strategies



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Introduction

The field of education has come a very long way from the one-room classroom of the past. Every day, psychologists and developmental biologists are learning more about the human brain at all ages—and teachers and educators the world over may be able to teach better as a direct result. With new data being discovered daily about how individual students best learn and new tools being invented constantly to increase the educational resources at our fingertips, it is no surprise that K-12 education is evolving.

In this course, we'll look at some current trends in K-12 educations, talk about the developmental science and emergent learning philosophies upon which they are based, and ultimately discuss a few practical tips for creating a modern, connected classroom atmosphere in which every student is able to succeed. Let's first take a look at a couple of school environments which have decided to embrace current trends, with positive reactions by teachers and students alike.

Case Studies Regarding Trends in K-12 Education

Case Study 1

One school system has decided to go all-in on the trend of increasingly immersive technological experiences for their students, such as AI, AR, and VR (artificial intelligence, augmented reality, and virtual reality), on the basic principle that enabling communication in the best way possible is the best thing they can do for their students—as the students will only be experiencing faster-paced communication over the course of their lives. From using devices like Amazon's Alexa as an in-class assistant to aid with everything from quotidian logistics to off-the-cuff questions to immersing students more fully in their studies with AR or VR field trips, both teachers and students (per the results of a survey) are feeling like their in-class time is more productive, engaging, and—according to at least one student—'worth it'.

Case Study 2

A school system in Vail, Arizona educates over 10,000 students. In order to better serve their staff and students as well as to help their foundering budget, they decided to adopt a few different modern educational trends: they went textbook-free, they embraced open content, and they decided to invest in online and blended learning systems. They found that even though their new tech-centered

system required them to buy laptops for all of their students that their costs were still lower overall (as opposed to the investment in new textbooks for everyone). They created a proprietary open-content system called Beyond Textbooks for their students to use as an educational system instead, and because of all of this were able to open their metaphorical gates to allow distance and blended learning to happen—which resulted in a larger student body, higher retention rates for students, and all for a lower investment than more traditional methods had allowed.

Takeaways from Case Studies

In each of these case studies, we see that deciding to invest in non-traditional educational paradigms has paid off for the institutions deciding to embrace them—not only literally, but also in quality of experience and education for the students and staff alike.

The surprising thing, however, is that such early indications and cases of schools going 'all in' on new technology and theories of learning have had such a high rate of success. As these are very new, burgeoning trends in the field of education, many of the trends we'll discuss in this course have not been widely studied as of yet; in many cases, there is just anecdotal evidence to show that they stand a chance of improving the educational paradigm.

Yet that is precisely what they seem to be doing. Perhaps this is because each of the trends we'll discuss in this course has at its root a deeper understanding of the psychology underlying effective education. We'll begin our discussion on current trends in education with the topic of classroom expansion.

Section One: The Necessary Expansion of the Classroom

As we are learning more about how students learn, it is becoming increasingly apparent that the one-size-fits-all educational paradigms of the past are not primed to be practical or effective for best teaching every individual student. Different students learn in different ways; some may find lectures helpful, while others—equally driven, equally intelligent—may have a hard time staying quiet or still for the length of an average class period.

Delving into the recent research on how K-12 students learn best has shed light on several disparate learning philosophies. These different learning philosophies or modalities can inform teachers as to good strategies for managing their

classrooms, brainstorming educational opportunities, and reaching their students where they are.

However, because these differing learning modalities are so widely varied, they can make practical and efficient teaching strategies increasingly difficult. Brainstorming ways to reach out to students exhibiting different learning modalities to make communal education engaging and effective for everyone will be a major goal of teachers moving forward.

What are the different learning philosophies to which students can relate?

In addition to being naturally inclined to absorb information in different ways (for example, by reading or note-taking), students subconsciously learn best in different mentally-structured ways. These can begin with the different ways information is first perceived—for example, aural learners may do best with lectures they can listen to—but we are learning that the connection may go deeper than just the initial introduction of new ideas. Let's take a brief look at the different learning philosophies recently uncovered by educational researchers:

Aural

Students who are aural learners may tend to remember ideas best which are verbally presented to them. Because of this, learning through a lecture format naturally attracts the aural learner. Aural students are good listeners who may be easily able to repeat patterns of words or letters just by hearing them once. You'll be able to identify an aural learner because he or she will enjoy talking, dialogues and debates, dramas, and music; and there is a very good chance that he or she will repeat instructions back to you once given just to ensure comprehension.

Physical or kinesthetic

Kinesthetic learners are those who learn by doing. They will be the ones in classrooms who fidget often, or look for excuses to move. When sitting through a lecture, they may look bored or zoned out; their dynamic creativity will come into play, however, as they will be the students who like to try things out and manipulate different objects once they come into contact with them. You will find that they will talk with their hands often, and enjoy working with music as it gives them a natural beat to move along to.

Visual

Students who are visually inclined often learn best by watching and seeing—so giving demonstrations may be a good strategy. Fill your classroom with colorful, visual stimuli (think: graphs and pictures). When they are learning, they often rely upon imagination and their 'mind's eye' in order to conceptualize a difficult topic. You'll often be able to identify this type of learner because they will stare; they may respond better when you give them something to watch. They may be quiet and impatient, particularly if they are asked to listen or read. Generally speaking, this type of learner may prefer media and arts to other disciplines.

Haptic

Those learners who prefer more 'hands-on' learning atmospheres are said to have a haptic sense of learning. The sense of touch, for these students, helps them remember things, and they may be more successful with tasks which incorporate digital manipulation. These students may often fiddle with small items; they may doodle in the margins of their notes, for examples. Puzzles and doing artwork may be particular favorite activities of the haptic-style learner.

Interactive

Learners of the interactive modality may learn best through verbalizing their thoughts to others as they process what they are learning. These types of learners may enjoy having others around as sounding boards. Question and answer sessions attract this type of learner, who enjoys discussions, as opposed to lectures or reading assignments. You may be able to identify this type of leaner because they will often enjoy talking at great length and may have difficulty being quiet for long periods of time.

Print

Those who learn most naturally by print take information in best by reading it. They're often able to recall anything they see in print—either in a book or on a board at the front of the class. They can be perceived as 'bookworms' by their peers because they often will love reading, whether it be books or magazines. They will enjoy taking notes and writing on the board.

Olfactory

Finally, learners who learn best through an olfactory modality find that they associate new information best with smells and tastes. These students may find that, in particular, smells are associated with specific memories; they may be able to identify different smells with high levels of precision.

This is a wide range of differing learning philosophies. In modern classrooms, it's expected for teachers to learn which educational method works best for each of your students and find a way to reach them in that specific way. However, many teachers have many students, which makes that level of investment in each student unwieldy and—in some cases—impossible.

Perhaps the biggest common thread linking many of these modern educational trends is that we are realizing the ramifications of truly understanding that no two students are the same. However, another crucial fact we are realizing about students is that even though each has a specific learning tendency, no student is absolutely the same every single day in school—and it's very likely that many students will lean towards a few different methods of learning.

To help increase the availability and relevance of your teaching style, then, one strategy might be to use the Internet to facilitate diverse learning experiences on a day to day basis. Other strategies might include expanding your classroom to include learning opportunities outside of your physical location. In any case, modernizing our approach to education in order to better educate is the foundation underlying most current trends in K-12 educational philosophy. Next, we'll look at the ways technology and out-of-the-box thinking are opening up doors for classroom expansion in schools all over the world.

The Role of Technology in Modern Classrooms

Technology is allowing many students to transcend geographical and even financial barriers which might have interfered with access to a good education in the past. Embracing the tools which allow learning to occur unencumbered by distance can help reach multitudes of students the mainstream educational model had before not been able to assist.

However, a growing number of educators believes that using technology to educate may have another benefit for students. Increasingly, technological devices aid nearly every interaction we enjoy with others, particularly those outside of our immediate families and communities. This same technology facilitates many steps of our daily routines. By equipping students with an innate understanding of how technology works, teaching them how to teach themselves about new Internet-based tools, and exposing them safely to the always-new, always-better model of evolving technology, teachers are preparing their students to assimilate well within the world of their future.

Technology has the capability to transform the way we learn and teach through practical applications such as distance learning and internet-enabled classroom

experiences. By brainstorming clever uses of the Internet, we can also find ways to better reach every child where they are—whether that's a physical, remote location, or on a more metaphorical level, wherein each student can be taught according to how they learn best.

What role can the Internet play in creating healthy and educational classroom experiences in modern schools?

In the past, teachers have been limited to what they can describe, portray on a board before the class, or what is written in books in order to excite their students' imaginations and passions for learning. As more resources have become available—from color photographs to video presentations—teachers have always turned to the cutting-edge novelties within their fields to immerse their students in what makes their subjects interesting.

As we move into the future, the resources we have available to us to reach our students are becoming more and more realistic, impressive—and accessible. Increasing our research into the way students learn is showing us that not only do students learn in different ways—for example, learning best by doing, reading, listening, or speaking—there are different philosophies by which they learn.

In many cases, using the Internet to cater classroom experiences to a wide array of learning styles and philosophies is allowing teachers to reach more students more successfully. Internet-enabled classroom experiences use Internet-based tools or apps to improve the classroom experience for each individual student.

What are some specific ways that educators can utilize the Internet to enhance classroom time, educational access, or even teacher-student or student-student relationships?

From eliminating or reducing paper-based busywork to helping students access resources they would never see otherwise, here are a few different ways that the average classroom can become more connected:

- Interactive displays that allow each student to write on a board at the front of the class via their own smart devices can increase a sense of interactivity in the classroom during traditional slide-based lectures. This can also streamline student-teacher communication and allow students to feel as if they are more involved and responsible for stellar class content.
- Smart scanners enable students to take scan information from textbooks and import it into their notes for easier manipulation (and less rote note-taking). This also allows students to take advantage of text-to-speech apps;

students who might not learn best by reading may be able to learn the same information when it's being read out to them. Students who learn best by taking notes will still have the option to do so, but students who learn differently will appreciate this forethought.

- Virtual classroom technology with platforms onto which teachers can upload slides, assignments, and other resources and which students can access at any time (and even submit assignments, ask questions of the teacher, and participate in discussion groups with their peers) decrease excuses for low attendance and increases the likelihood of homework being submitted on time.

- Online, open-source educational platforms are being used as resources for basic coding languages: students all over the world can log in and learn how to code for free. Not only is this a real-world opportunity for children to learn how to code; it's also a way to feel connected to a global community and to have instant feedback on the accuracy and efficacy of their code.

- On-demand video platforms are allowing teachers to create formal educational presentation videos and even informal check-in videos for their students which can be accessed from any device. This facilitates distance and mobile learning and can open pathways of communication for students who may not feel comfortable approaching adults in person or raising their hands in class.

- Internet providers are working with many educational systems to create what are known as 'rolling study halls' or 'smart school busses' to allow students to connect to the Internet who may not have home access. Not only will this increase Internet availability and possibly extend productivity, it may result in safer bus experiences for both students and drivers.

There is virtually no limit to the number of ways that the Internet can help streamline processes within the classroom and expand the classroom for students worldwide. Each discipline has a world of resources to explore as well: from virtual tours of the Louvre to live-streamed archeology digs, there is no shortage of ways to help students connect with their education, no matter their learning modality.

What is distance or mobile learning?

Distance learning is, very simply, a way to learn without having to have regular face-to-face contact with a teacher in a classroom. Distant or remote learning differs from homeschooling in that, while a student may be at home (or anywhere), instead of being self-taught or taught by a parent, they are still being educated and evaluated by a professional educator in a formal program; however,

all communication simply occurs without being in the same room—most often, with considerable assistance from the Internet. Distance learning also differs from traditional homeschooling in that the student is still part of a class community which still conferences often via protected, safe, monitored chat rooms and discussion boards.

One of the benefits of distance learning is that it often sets students up to be able to enjoy and continue their education even in the midst of events which might preclude their being able to physically go into school each day—for example, a prolonged sickness, or bad weather. Having distance learning systems set up just in case of a worst-case-scenario is never a bad idea.

Going Beyond the Field Trip: The Physical Expansion of the Classroom

In addition to expanding the classroom with technology by delving into the web for internet-enabled experiences and increasing resources for remote or distance learning, there has been a trend in the last few years in getting the children back out of the classroom—by making the world one gigantic, immersive academic experience.

What are some ways that teachers can consider expanding the classroom physically through (literally) extra-curricular projects, activities, and experiences?

It may take some extra work on the part of the staff, but teachers have the world at their fingertips when it comes to creative extra-classroom experiences for their students. Within every subject and discipline there are myriad ways to create experiential, hands-on applications for learning.

Here are just a few ways this could be practically applied in school districts nationwide:

- Schools could form partnerships with nearby zoos and wildlife reserves to give children information about the animals and even access to insider activities like feeding the animals for biological science projects and reports

- Schools could form partnerships with nearby green or clean energy laboratories and do projects comparing solar and wind energy to conventional sources of energy

- Schools could form partnerships with nearby farms to learn more about the science of food production and the mechanics and marketing of the supply chain moving food from farm to consumer

- Schools could reach out to local artists to give children hands-on experience with pottery, painting, mural work and other forms of applied art

Any industry in which young people could take on internships or apprenticeships might be worth looking into! This is truly a place and a paradigm in which creativity has no limits. The main thing to keep in mind in order to truly expand the classroom is to go beyond the field trip and, indeed, to go beyond what we traditionally think of as the academic disciplines to offer our students ever more specialized—and ever more practical!—learning opportunities.

The Changing Role of the Teacher In the Expanding Classroom

As we move to a more digitized or decentralized classroom—classrooms in which hands-on experience, external experience, internet-enabled experiences and 'flipped' teaching becomes the norm, will the role of the teacher be minimized—or will it become even more essential?

Professional educators are incredibly necessary assets for students. Bringing together resources and opportunities, learning how to reach each student on a level that is practical, achievable, and still personal, and managing all of the standardized requirements to which every student nationally is still expected to reach—these all take considerable experience, time, and skill.

While—as we will discuss in further sections—the main framework of a classroom might be flipping, expanding, or becoming digitized, the essential connection between teacher and student (and between students) must still be fostered. It is up to today's teachers to help build tomorrow's classrooms!

Key Concepts

- One significant trend in modern K-12 education is the expansion of the classroom. This can be a physical change, such as a renewed focus on making your community your academic workplace.

- The classroom can also be expanded in terms of mobile and distance learning via the internet. Embracing AR, AI, and VR may take a bit of an investment up front to set up, but students and teachers alike are reaping the benefits.

- Another trend in modern education consists of personalizing a student's education to their learning philosophy. However, it must be noted that teachers cannot personalize individual educations for each student without learning how to first expand their classroom, otherwise they will get overwhelmed.

- Expanding the classroom and allowing each student the individualized experiences that they require for an in-depth, rewarding education go hand in hand in terms of both execution and benefit for teachers and students.

Reflection Question

What are some concrete steps you can take to make the world of your classroom a little wider for your students? Do you think it will better assist your students to invest in internet-based learning opportunities or the physical expansion of your actual classroom?

Section Two: The Implementation of Science-Based Learning Theories

As we learn more about how students learn, it's in everyone's best interest that we update the way we teach. This may result in the upheaval of decades of ingrained educational habits. Change is difficult, but when studies show that taking a different approach to education can improve outcomes for students, changes must be made.

Why is it important that teachers stay up-to-date with new learning theories and strategies?

We're learning more and more about children every day—how to best reach them academically, how to keep them safe, how to take care of their creative and empathetic sides, and ultimately how to help them grow into the best versions of themselves. While we've always done the best with the tools that we've had, teachers have a responsibility to learn about new methods and new tools that are continually being built for the better experience for the children.

Ultimately, it is the duty of a teacher to give the best educational experience possible to his or her students. If it is shown that students learn better with a different type of teaching style, the teacher owes it to the students to learn how to teach better every day.

Many current trends in education center around the students' experience. We'll delve into several of these in this next section.

Educational Trends: Turning Past Paradigms Upside-Down

Much of the research delving into the psychology of education is causing a small revolution in practical educational norms. Whereas—for efficiency's sake—students were taught with an extremely universal approach, we are now seeing a trend towards **personalized learning**. Even the standard of being introduced to new material at school and studying or completing homework at home, after hours, is being disrupted with **flipped classrooms**.

What is the concept of personalized learning?

Personalized learning is—very simply—the removal of a 'one size fits all' learning approach in which the way lessons are formulated is standardized across the student body. Instead, with personalized learning, teachers seek to meet each individual student where they're at, with learning methods that complement the way each specific student best understands new information.

The trend of personalized learning has been met with criticism, and it has polarized some members of the educational community. This is partially because aside from the above very general umbrella definition, there is no agreed-upon method or strategy which is universally known as 'the personalized teaching way'. This has caused the trend of personalized learning to be cast in an occasionally hyperbolic light—making it ripe for ridicule.

There are several myths surrounding personalized learning which have made their way around the academic community. It may be easier to begin by defining what personalized learning is not, rather than it is! Personalized learning is not:

- A mere shift towards self-driven student work, almost exclusively on a personal device. Personalized learning is not computer-mediated learning.
- A paradigm in which every student works independently, never as a classroom community. While each student does learn to be focused on personal knowledge, much of the instruction does still take place with small-group or whole-classroom engagement.
- Another term for 'students moving at their own pace'. There are those who seek to write off the personalized learning movement by stating that it's always existed under another name. This is an overly simplistic generalization.

Having established that personalized learning is not a form of student isolation, computer-mediated learning, or simply self-paced learning, what is it? How can one implement it in one's classroom?

- Personalized learning is, first and foremost, an approach to learning—not a method. There are methods which may align well with personalized learning, and each teacher can select their own courses for doing so (likely with regard to the specific students they are teaching.)
- One way that teachers might implement personalized learning is through the establishment of individualized learning plans for each student, as well as embracing project-based learning in which each student takes from assigned projects their focuses of choice.
- It is important to note that personalized learning still requires students to meet academic norms. Teachers and students will work together in order to prepares the students for standardized assessments and other objective benchmarks of success.
- One through line of personalized student is simply—but crucially—student involvement in the educational process. In personalized learning systems, the student meets frequently to speak to teacher regarding goals and evaluations.
- Ultimately, fully implemented personalized learning systems are a bit more like traditional college systems, wherein an undergraduate student has an advisor, must take general ed courses, but can veer off to specialize under guidance.
- It is important to note that personalized learning is not a substitute for formal, guided special education for those with special needs. However, teachers leading personalized learning classrooms may find that this approach to classroom learning can work well in accordance with an IEP (Individualized Education Program) for a student with special needs, as the framework of an IEP is loosely similar to a student-chosen personalized learning plan.

Is the trend of personalized learning more work for the teacher than other trends in modern education?

While the answer to this question is certainly up for debate and comparison, on the whole personalized learning does tend to be extra work for the teacher due to the formation of individualized learning plans as well as meeting with each student to discuss goals regularly. However, this can be mitigated, and the benefits of meeting with each student within their comfort zones on their education are manifold.

How could a school work to implement personalized learning for its students?

Every school will differ in its implementation of this approach to learning, but four successful models have been:

- The use of **learner profiles** for each student: A learner profile is a detailed record that provides teachers and students at the school an understanding of the student's strengths, motivations, needs, and goals. They tend to be living documents, reviewed often by administration, parents, teachers and students and updated regularly. These profiles can aid the teacher in understanding how best to help the student, and help the student communicate whether learning methods currently being used are working for his learning style.

- The use of **personalized learning paths**: Much like setting up a concentration in higher education, a personalized learning path enables a student-teacher team to make up a schedule that works for his specific education strengths and aims. Based on frequent feedback and constant support and monitoring, a personalized learning plan might include small group work, individual study time, presentation-based learning, projects, and even one-on-one tutoring.

- The use of **competency-based progression**: Instead of taking regularly-scheduled exams with pass or fail grades, the student is given many chances to show competency in a certain subject in ways geared to help them truly integrate the subject without the sterile, high-pressure feel of a scantron exam. For example, a student in the sciences may be asked to talk about what he knows about chemistry while cooking, or about biology while caring for an animal; a student taking math might be asked to show what she knows while in a retail internship. The school would make it very clear which objectives the student should focus on attaining competency within, and these objectives would not all be purely academic; for example, a competency might be resilience, rhetoric, or patience. Each competency once achieved would allow the student to move deeper within the subject or skillset.

- The use of **flexible learning environments**: Within flexible learning environments, schools carefully observe their students and design their classrooms and schedules around what the students need most from their education. This might vary on a week-to-week basis and may include individual study time, small groups working together on projects, one-on-one tutoring, excursions, and presentation-based learning.

What is a ‘flipped classroom’?

Again, let us first define what a flipped classroom is by discussing what it is not. In past educational paradigms, students have been introduced to new subject materials in-class via presentations or other means of passing information. They have then been sent home to work through study materials to ramify that information—in other words, they get taught at school, and then they have homework.

One of the fundamental concepts or arguments behind flipped classrooms is simply that a student can watch a lecture anywhere. Teachers, according to this educational trend, are more valuable when they’re able to be a much more accessible resource for their students—and class time is more valuable when spent on activities and complex projects that ramify the content learned by watching lectures at home.

Another driving concept of flipped classrooms involves ensuring that the students have the resources they need, when they need it the most. For example, in one common flipped classroom setup, students watch pre-recorded lectures at home, then simply fill out homework while they’re at school—with the teacher there to help guide them through it, or answer any questions that they may have. This alleviates the burden on parents of having to be well-versed in often complex subject matters in order to aid with their children’s homework, and it also ensures that any misconceptions the student has about the subject matter are rerouted early on.

What are specific activities that students can do at home to support the flipped classroom paradigm?

Remember, in a flipped classroom setup, new material will be introduced at home to support activities and work during valuable classroom time. Taking in that information can happen in a multitude of ways, including:

- Sending your students a link to an online lecture they can watch, whether it’s something you found or something you personally recorded
- Read or otherwise peruse online material, such as an article to which you have sent them a link
- Go through a Powerpoint presentation which you have made available to them
- Spend some time discussing material in a (safe) online chat room you have set up for your students

- Perform exploratory research on a subject; for example, attempting to find the answer to an open-ended question you have assigned them

What are specific activities that the students can perform in class to support the flipped classroom paradigm?

In the flipped classroom paradigm, in-class time is spent doing meaningful activities which support the incorporation of the information the student has reviewed on his or her own time. These types of activities are not limited to, but can include:

- Practicing a specific skillset with guidance from the teacher (for example, measuring or weighing items with precision and accuracy)
- Having a round-table discussion about the text or slides the student reviewed on his or her own time
- Participating in a staged debate around a question that was assigned to the students previously
- Giving the class informal (or formal) presentations about the information the student reviewed on his or her own time
- Going around the classroom from station to station, each of which has a teacher-created activity or hands-on model to help bring the text to life
- Laboratory experiments
- Assessment of peers and review of other work, as deemed appropriate by the teacher

What are the pros and cons of teaching with a flipped classroom setup?

As with any change to an established norm, there will be benefits and growing pains while the new format becomes the new normal. There are several criticisms which have already been made of the flipped classroom format. These include:

- The fact that the flipped classroom setup often requires students to have a working internet connection from home
- The fact that this method depends upon students dedicating a set amount of time after hours to taking in new information, often without parental support

- The fact that sending students home to view lectures does not cater to different learning types (particularly students who don't learn well through a screen).

- The fact that flipped classroom setups do require more work, often, on the part of the teacher.

However, there are many benefits to the flipped classroom paradigm. Students have reported enjoying their in-class experiences more, and teachers are often able to delve further into their topics because they don't have to spend time going over basic concepts that many students can easily first learn on their own.

Ultimately, flipped classrooms require flexibility on the parts of students, parents, and teachers, as well as extremely methodical and intentional content that is put together by the teacher with this method in mind.

What is a 'student-centered' classroom? What is the difference between teacher-centered learning and student-centered learning?

A student-centered classroom focuses on experiences that cater to students' interests, learning strengths, and how the student will use the information in his or her day-to-day life. This is different from a teacher-centric classroom, in which the focus is on the teacher and how her or she best decides to disseminate information.

The distinction can be subtle! Here are a few measurable ways in which a student-centered classroom may differ from a teacher-centered classroom:

Teacher-centered learning may:

- Focus primarily on instruction and presentation by the teacher, to the students—in other words, featuring a lot of teacher lecturing and students listening

- Use formal, precise language—talking about subjects as the teacher is familiar with them

- Generally require students to work alone on individual homework or projects after listening to a lecture

- Feature constant teacher guidance and correction if and when students are asked to speak

- Incorporate subjects chosen and curated by the teacher (or governing administration)

- Include questions from the students, answered by the teacher, with no argument or discussion by the students afterward
- Culminate with the teacher evaluating each student and marking that grade or score down for parents and administration.

By way of comparison, **student-centered learning may**:

- Include an equal focus between the student and teacher
- Use informal language—the language in which the student might use the information on a day-to-day basis
- Feature much more student interaction; a teacher might briefly model a scenario or skill, then spend much of a class period having the students practice and model for each other
- Request the students mostly work in pairs or small groups
- Allow students to speak freely, with the instructor mainly providing correction if necessary, at the end of a class period, or if a direct question is asked (i.e., letting the students 'puzzle [a problem] out' and naturally come to the right answer if at all possible)
- Allow students to answer each others' questions, or (respectfully, with good rhetoric, as modeled by the teacher) argue or clarify when the teacher presents an answer
- Incorporate student's self-evaluations, evaluations of each other's work, and the teacher evaluations when setting student scores for each term.

What are some practical steps teachers can take to help their classrooms evolve into systems for student-centered learning?

- ***Give your students the opportunity to take on open-ended projects:*** Allow students to choose a project that allows them do demonstrate developing mastery in several different objectives. This could be designing or building an object, starting up a school or community program, researching and writing a long work, or any of a number of other creative endeavors.
- ***Take full advantage of the latest and greatest in technology:*** Students in modernity are born into an age of technological advancement. Their personal devices and experience with the Internet likely go farther than any computer lab at school. Finding safe ways for them to use web tools, presentational platforms, and other device-centric methods of engaging with others and their subjects

speaks to students in a language they understand—and it also sets them up for a lifetime of working with cutting-edge, contemporary communication tools.

- ***Veer away from traditional worksheet-or-essay-based homework as much as possible; replace with in-class activities that are hands-on, engaging, and immersive:*** The movement of student-centered learning argues that students learn best by doing, not listening to a lecture or filling out worksheets at home. Similarly, in student-centered learning, following the progress of a student merely by monitoring homework completion and test scores is now thought to be a rather two-dimensional way of evaluating a student. Instead of relying on paper-based impersonal methods to teach students, teachers in student-centered classrooms focus on allowing students space to create, act, and speak in class. One major benefit of this system is that it gives the students autonomy—which drives excitement and creativity. If we are no longer handing students assignments with cookie-cutter expectations, they will be more interested in the potential they have to explore and engage.

- ***As much as is practical, refrain from punishments, rules, and definite consequences for (study or research related) mistakes:*** Along similar lines, student-centered classrooms often do not have consequences for breaking rules—or many rules to begin with (within the academic sphere). Promote an environment of mutual respect and excitement for study, keep your activities upbeat and engaging, and allow your students to ask the wrong questions and get distracted by what interests them. Teachers serve as guides within student-centered classrooms.

- ***When it comes time to evaluate your students, invite them into the process:*** Finally, when it comes time to assign grades or report to the administration or parents exactly how their student is faring in your classroom, take it as an opportunity to learn how the student feels their education is going. In student-centered learning, students' perception of their success is as important as is yours. While it will always be the case that there are certain objective standards that students must meet to successfully navigate their schooling years, one important skill student-centered learning seeks to impart upon students is to become a critical evaluator of their own work.

What is maker learning?

Maker learning is a movement in education that is gaining traction in modern schools, but has its roots in trends that have originated in the past several decades.

Based on the work of constructivists like Jean Piaget and constructionists like Seymour Papert, maker learning involves interactive, project-based modules which are meticulously designed to build upon each other and strike a chord within each student individually.

What is constructivism?

Constructivism is an educational theory that seeks to build the knowledge and understanding of learners by building on the specific foundational experiences each student individually had before they came to school. It treats each student as a person with a background and as a member of a community and culture, and seeks to use that information to enhance the student's learning experience.

Constructivism is built upon the work of several philosophers, educators, and psychologists, but is perhaps best known by the father of the field—Jean Piaget, a cognitive theorist and Swiss psychologist working in the early-to-mid twentieth century.

What is constructionism?

Constructionism as it relates to education is a model in which each student is encouraged to construct a mental model in order to better understand the world that moves around them. Practically speaking, this theory challenges educators to step back and let students discover the world around them by using that which they already know to dig deeper.

By constructing their own mental models of the world and taking the initiative to make those models ever larger and more precise, students take ownership of their education—and their growing world views. Within constructionist education paradigms, teachers guide their students in discovery—which does not take less work on the part of the educator, but may be an exercise in patience and restraint.

Maker education brings these two theories together in one movement which puts the students at the center of the classroom, asks the students to explore and become aware of what is around them, and take on the agency of one able to help add to the world that they see.

What is the main theory driving maker education?

- In maker education classrooms, students will be guided into interactive, inter-disciplinary, open-ended fields of study. The idea is to align projects that the students can really take ownership of with necessary educational objectives. The focus and expertise of the teacher will therefore be concentrated on assisting the students with gentle guidance and providing resources whenever possible.

- However, the deepest tenets of maker education delve into the heart of education: allowing students to find ways to contribute to their communities in meaningful ways. Allowing such freely-directed projects helps students tap into the resilience and knowledge of their community—and helps them realize their abilities to make the world around them better.

- Because of this community-centric (as well as student-centered) approach, one of the beautiful things about maker education is that it looks different in every schooling community. Maker education can occur with cardboard and pipe cleaner; it can also happen with high-end wool and acrylic paints. Whether students have access to an equipped test kitchen, old cars they can take apart and reform, or libraries to help them write the next great novel, maker education is specific to the student and emblematic of the community and resources they have recourse to as they self-educate.

- Ultimately, the main point of the maker education is simple: it seeks to equip the students of the movement to make—to create. It sees creativity as mankind's unique asset and the way to move communities forward, and therefore the strongest value and skill to impart upon the next generation.

What are some practical ways teachers can integrate the values of make education into their own classrooms?

Maker education is incredibly trendy in modern education, but it does raise some questions about practical implementation in a world in which standardized tests do matter and there are objective academic standards to which even the most free-minded schools must adhere.

Here are three simple focuses every teacher can implement, to the extent that they can, to incorporate the trend of maker education into their teaching strategy:

- ***Focus on Job Preparedness:*** Every academic speciality, from math to marine biology, has behind it career potential. From an early age, expose your students to the concept of daily work and careers, in every field. Consider it your job as the teacher to ignite the spark that might fuel a passion for a specific career—even if you're working with very young students. You're opening students up to a world of practical opportunities to give back to their communities, whether your students are future musicians, mechanical engineers, or medics.

- ***Incorporate Tools, Processes, and Hands-On Projects with Deliverables:*** Whether your student's toolboxes are metaphorical, technological, or actual toolboxes, allow your students to equip themselves with the tools they would use outside of school to get projects done. Creating an

artificially insular environment will not aid your students for life after school; allow them to use the Internet (with precautions) and give them all of the resources they need to complete their projects well. Focusing on meaningful projects with tangible deliverables—a model of a car, a well-written play, a shampoo prototype, whatever your students are interested in for each specific field—will help your students get a sense of what contributing to their future fields will feel like!

- ***Give your Students Real-Life Problems to Solve:*** Finally, focusing on solving problems with their newfound skills will help ramify the teaching and give your students a change to learn strategy, rhetoric, and logic as well as their more traditional subjects. In math class, ask your students to slice budgets; in the sciences, ask them to write and defend a proposal to solve a health issue. Incorporating real-world examples, whether fictional or sourced from the news, can help teach your students that the skills they're learning will be directly applicable to their own lives, as well as the lives of others—which will prompt them to pay attention and invest more time and care into learning these all-important skills.

What is Social-Emotional Learning?

One growing trend in K-12 education simply centers around the realization that schools aren't just about grades, standardized tests, or even setting students up for myriad college acceptances and successful, lucrative careers: one aim of education is to prepare students to be empathetic, productive citizens of the world.

Social-Emotional learning, which seeks to help students become kind and well-rounded humans, has been disregarded in years past as unnecessary or 'soft'. However, many teachers are choosing to incorporate elements of Social-Emotional learning in their classrooms today.

What are the core competencies of Social-Emotional Learning?

Just like any other academic program, students and teachers who wish to pursue Social-Emotional Learning can work towards mastery in specific core competencies. These competencies are as follows:

- ***Self-Awareness:*** Self-awareness is the learned ability in which a student is able to recognize him or herself with accuracy. This may include being able to gauge their emotions, values, and thoughts, and see with some level of transparency the ways in which they influence their own behavior. Self-assessment is key for progress, so self-awareness is a bedrock of the oft-

lauded ‘growth mindset’. This tool can be used to help a student recognize his or her own strengths and, in turn, develop crucial self-confidence.

- ***Self-Management:*** With proper self-management, students learn to go beyond perceiving and measuring their thoughts, behaviors, and emotions and find ways to manipulate and regulate them. These skills can go a long way towards helping a student manage stress, impulse control, and motivation. With self-management comes talent in the students’ helping him or herself work towards goals in progressive, measured ways. Self-management can help with self-discipline, goal-setting, and organization skills.

- ***Social Awareness:*** A student who is socially aware takes on the ability to understand where other people are coming from and what they are going through—which includes understanding with empathy the perspective of those from diverse cultures and backgrounds. A socially aware student appreciates the experiences of others, is likely extremely empathetic, has respect for others, and wishes to contribute to community support and resources.

- ***Relationship Skills:*** A student who has well-practiced relationship skills is able to establish good relationships with people of diverse interests and backgrounds; moreover, these students are often able to nourish relationships, maintain them, and see them grow. Relationships can be broken down into many groups of practicable skills, including clear communication, good listening, intentional cooperation with others, the ability resist inappropriate pressures from society, the ability to negotiate through conflict, and the ability to ask for help (and offer it) when the situation demands it. Such students are excellent at teamwork.

- ***Responsible Decision-Making:*** Lastly, students who are good at making responsible decisions exhibit a talent for making constructive choices regarding their behavior. These students learn to prioritize their social interactions and evaluate them based on societal norms, safety concerns, and ethical standards. Learning how to evaluate situations realistically helps students understand that actions have consequences, leading to more intentioned activity overall. These students learn well to identify problems, solve them, analyze situations, and reflect upon their ethical responsibility to their community.

What is Classroom Gamification?

One fun trend which has appealed to both teachers and students is the rise of classroom gamification. Gamification has long been a strategy for getting adults to

stick to projects, as we've seen with incentivized rewards programs for brands. In the classroom, gamification often involves incentivizing or simply making a competition out of work or tasks that otherwise may not seem exciting to students facing them.

Many K-12 students are also very aware of the concept of gamification—simply because they love to play games! Through classroom gamification you can tap into the same motivation that allows young children to want to play the same game, over and over, until they beat the final boss. Let's talk about a few ways to use classroom gamification in your classroom to make learning fun.

How can teachers use the concept of classroom gamification to make getting work done fun?

- ***Use pre-existing games, adapted for your own use:*** If you can make an existing game educational, then go for it! Trivia battles, Scrabble, Bingo, games with dice, scavenger hunts, and more—if you tell students that you'll be hosting a game-show style event, it doesn't matter how academic it might sneakily be, they'll get excited. Researching answers online to get to the end of a treasure hunt, using vocabulary words to play Scrabble—the possibilities are endless, and may not take much work from you to implement.

- ***Turn to online educational platforms for ready-made or easily-adaptable games***. Online apps like Quizlet, Quizizz and Kahoot offer multiple-choice trivia games that are easy to present at the front of your class, making for instant competition and trivia showdowns in your classroom. You can choose from thousands of pre-made question banks or import your own from your specific textbooks and content needs.

- ***Put together a fun quest for your students to complete:*** A quest is nothing more than a mission which has strategically placed objectives. Asking your students to complete directional projects and accomplish milestones such as finding the answers to questions, especially if you offer points and nominal prizes along the way, can be a good way to incentivize learning (especially during an educational slow time, like just before summer or during the holidays).

- ***Train your students, then allow them to fight a Boss Battle***. In traditional gaming, the boss represents a particularly tough battle one must fight at the end of a level before moving on through the game. There are many online platforms, such as Classcraft, which allow you to put together tournaments and boss battles. These will appeal to students of all ages—teachers may even want to get in on the fun!

- ***Allow your students to win badges for accomplishments and milestones in your classroom.*** Some things never change: Having a public way to celebrate mastery and achievement with tangible prizes and artifacts handed out for milestones act as powerful incentives, even for getting things done which may not be as fun as normal games!

Ultimately: When in doubt, injecting healthy competition or setting a timer are two surefire ways to help K-12 students feel less like their studies are a chore and more like they're a fun way to prove themselves.

Educational Trends: Preparing Students for Modernity

One final group of trends we see goes hand in hand with a classroom expansion technique we discussed earlier in this course. The one thing all students have in common when compared to their educators is that they need to be even more prepared to work with technology seamlessly in their lives because that, increasingly, is where the future is headed.

One educational trend, therefore, is focused on the use of technology within schooling systems for the specific aim of preparing students to use technology when out of school.

Emphasis on 21st-Century Skills

In many cases, teachers are looking to support their students as they will be entering the workforce later in the information age. According to some studies and projections, the core competencies that students will need are:

- ***Collaboration:*** Being able to work together with peers, students in different grades, and even teachers will set your students up for a lifetime of productive project-producing while working seamlessly with people they may or may not like!
- ***Communication:*** Good communication skills are the foundation upon which any success is built. Laying that foundation now will set your students up for a lifetime of easier relationships and getting projects completed.
- ***Creativity:*** Being able to think outside the box will serve your students for years. Additionally, being able to 'create'—whether that creation is a physical product or not—is a useful skill which students can use across a wide gamut of different fields.
- ***Critical Thinking:*** Self-awareness is built upon a bedrock of critical thinking. Being able to think objectively and critically will help the student

self-evaluate, make good decisions within difficult situations, and be more empathetic to their peers.

- ***Information, media, and technology literacy:*** As we continue on in the Information Age, it's important to ensure that students have the comfortability and language to deal with technology which can set them up for future success.

- ***Initiative:*** Among the skills employers are constantly looking for within talent pools is initiative—the proclivity to realize that it's your job to make change happen. Instilling this in students from a young age will go a long way towards supporting their future success.

- ***Flexibility:*** Everyone needs to learn how to go with the flow! One benefit of constantly exposing your students to different learning styles is that they learn how to adapt and be flexible to what life throws at them—certainly a pertinent skill in modernity.

- ***Leadership:*** Giving your students the tools now to be excellent leaders in the future—whether that's initiative, communication skills, creativity, or more—will set them up for a lifetime of success.

- ***Social Skills:*** One of the benefits for a student of going to a public or private school (as opposed to home or remote learning) is simply that they become more socialized—a skill necessary for everyone. Knowing innately how to navigate a world of unspoken social mores will serve students for their entire lives.

- ***Productivity:*** Lastly, simply setting your students up for the expectation that they will get good work done on a timely basis and be expected to contribute regularly will give them experience they will use no matter which field or career they end up pursuing.

Moving, therefore, to learning paradigms and systems which support advancement in these skillsets is key for student happiness and well-being in the future. But aside from life skills and core competencies as we have discussed, are there specific skills that will likely be pertinent in the coming decades which we can teach our students?

What are specific 21st century skills we can focus on teaching our students?

Many 21st century skills tend to fall under the general umbrella of internet and technological literacy. While it might seem like a redundant or frivolous skillset to invest in, there is no doubt that whichever careers our students choose, they will

use advanced technological and internet-based tools to communicate and complete projects. Allowing students to become familiar with and develop expertise within these systems, therefore, is just giving the students one more tool to use when becoming contributing members of society.

- ***Cloud Computing:*** Learning to work within the Cloud (and supporting technology literacy in general) is crucial for streamlining productive learning opportunities and supporting future success at work.

- ***Mobile Learning:*** Likewise, trends are showing that recourse to ever more remote/mobile work systems and educational paradigms is going to be the MO in future decades. Preparing students for productivity within this workflow by allowing mobile learning when appropriate can help them develop this crucial skillset.

- ***BYOD, or Bring Your Own Device:*** A far cry from recent years in which phones and other personal technological devices were not allowed in schoolrooms, this trend invites students to bring their devices in—for education's sake. In many districts in which the one-to-one technology initiatives may not be feasible or supported by the school's infrastructure or finances, schools are learning to embrace the fact that many children have at least one device which they already know how to use.

- ***Familiarity with Immersive Technologies:*** Virtual Reality, Augmented Reality, and more—we're now beginning to dig into the surface of a tech-based tomorrow, and the more that students are now aware of these possibilities and the basic concepts underlying them, the more equipped they will be to use them when the time comes.

- ***Greater Digital Security:*** Hand in hand with all of these technological devices and programs that will be pervasive in the future workforce is the heightened danger of being taken advantage of over the Internet. Teaching students now about basic Internet security is a skill that will follow them through the length of their careers.

Key Concepts

- There are many different cutting-edge educational theories which are just beginning to be discovered and fleshed out. If we're willing to change the ways we have traditionally taught, we stand a better chance of creating a warm, welcoming, engaging and effective classroom atmosphere for our students.

- Delving into these different educational theories will take investment, but it is clear that the benefits will at least match our input.

Reflection Question

Think for a moment about your own education. When did you feel most engaged with your studies? What might this say about the way you learn?

Now, think about your current classroom. Is it set up in a particular way to increase your students' engagement in their studies? Is there anything you could do in order to allow the students more autonomy in their work?

Section Three: Ensuring that Every Student is Able to Succeed Moving Forward

We've discussed the benefits of educational trends relating to the psychology of the students, the philosophy of learning, and the likelihood of more and more integrated technology solutions in future academia and career opportunities. In this final section, we'll turn to the trends of school safety and inclusivity, as there is a strong focus now on ensuring that every student is able to learn safely without fear of physical or verbal danger or abuse.

Lastly, we'll discuss what a few experts have noted are likely the trends to watch over the next few years, as we move further into the Information age.

More Comprehensive Emphasis on Safety

Whether schools are protecting students from physical or mental abuse, it remains a definite responsibility of every school to its students and their families to keep students safe. In the past decade—and moving forward—schools have considerably ramped up their efforts to ensure that each student in their school can reasonably expect a safe experience while on campus. Let's briefly look at why this is the case—and how every teacher can do their part to increase school safety.

Why is it a responsibility of schools to keep students safe?

It's been pointed out from the likes of Maslow to the current U.S. Head of Education that children simply cannot be expected to learn if they are not safe. Yet, with daily threats ranging wildly from bullies to depression to raging hormones even to school shooters and more, students have rarely been less safe at school (or felt less safe, which has a similar impact on educational efficacy).

What are some practical steps that we can take to help keep students safe?

- Foster a sense of inclusivity in your classroom, and be sure to report any evidence of bullying that you see.
- Proactively teach your students about bias, bullying, and ignorance.
- Try your best to ensure that every student in your classroom is as involved in the community as they possibly can be. Isolation and seclusion do not lead to healthy community behaviors.
- Be very supportive of any student (or students) exhibiting risk factors for bullying or other targeted violent behavior.
- Teach civics and social studies in your classroom. If that is not your specialty, teach by example and representation.
- Inspire and encourage your students to be active allies of each other. Building a strong and fully engaged community is the best thing we can do to keep our students and the entire school community safe.

What are ways we can help students practice safety online?

- The next big wave of student-focused safety that we are going to see will be focused on Internet security. The FBI has issued a warning to K-12 schools regarding the exposure, hacking, and even theft of data and identities within school systems due to online activity.
- One of the main things that we can do to help students stay safe, aside from investing on an administrative level in technical Internet security software, is to give them information. It's simultaneously a 21st century skill and a crucial safety habit to teach your students that the Internet is forever, and the Internet is not always fun.
- Repeatedly and frequently reminding students that if they are contacted by anyone whose identity is not immediately and provably apparent they should shut down the conversation is simple and may protect students from irreparable harm.

A Focus on Special Education

Where in years past students who have been earmarked for special education services have been specifically sent out to special education schools or guided into courses differing from those of their peers, it is now the focus for the majority of

special education students to be immersed in the same general education classes—as much as possible—as the rest of the student body.

In order to make this happen, schools are focusing on equipping special needs students with the tools, technological or otherwise, that they require to help them succeed.

What can schools and teachers do to fix the current shortage of special education teachers?

- While we wait for an influx of the next generation of teachers, many of whom will have received training in special education as part of their degree (as well as the many teachers-to-be who will have chosen specifically to become special education teachers), schools must increase the percentage of their budget and attention towards special education initiatives.
- In the meantime, current teachers should seek out forms of continuing education which certify or educate them to help special needs children as much as they are able.
- Increasing awareness, as much as possible, about the rights to a good education enjoyed by all students especially including those with special needs, and working to integrate special needs students into the common curriculum as possible will help streamline special education, reduce the associated workload on special education teachers, and inspire a new generation of special needs teachers to start on the path towards their own careers.

What are the benefits of an IEP (an Individualized Education Program)?

- An Individualized Education Program, or an IEP, is a program written for a student with special needs after they have been evaluated and deemed as such. This document and plan will outline the steps that are needed to be taken in order to ensure that the student in question receives a fair, stimulating, and effective education.
- As we have seen in previous sections, an IEP for a special needs student does not differ much from where the current K-12 trends in education are already veering for general education students.
- An IEP helps inform the school from an objective standpoint what will be necessary to educate a student. The IEPs received at the beginning of the year (or when the students are enrolled) therefore go a long way toward helping the school allocate resources to support that particular student and his peers.

- The IEP must be managed and updated by parents, teachers, and evaluators over the course of the child's education, which does mandate yearly (or more frequent) check-ins regarding the student's well-being and progress. This allows for more knowledge by everyone in a student's circle of care regarding precisely how the student is doing. As a result, if the student is struggling or if his situation changes, the support team should be able to very quickly alter the plan to accommodate.

- Ultimately, education is rocketing to a place where every student, not only students with learning disabilities, will have something akin to an IEP in place. They allow everyone to stay informed, and they help schools plan for resources needed for each student. Allowing the student to participate in the formation and execution of his IEP is the natural next step, and one we expect to see in the near future.

Tolerance and Inclusion: Expanding the Classroom to Welcome All Students

In order to make schools safer and more productive, a current and ongoing trend in education is the eradication of barriers between socially disparate groups of students. Much as legions of administrators, teachers, and school officials worked tirelessly in decades past to end racial segregation in schools, it is our current job to ease the ramifications of unnecessary social walls which have been built between disagreeing groups of peoples.

To this end, featuring inclusive curricula and school subjects (for example, LGBTQ representation in health coursework) as well as promoting a welcoming, informative, friendly culture at school for all who enroll are both current goals of many within the school systems of the world. As much as we can learn from scholarly textbooks and from the most well-crafted curricula, we're poised best to learn from each other.

How can teachers assist their students to learn best from each other?

- Teachers can best assist their students to learn from each other by providing helpful, fact-based information about the history of ways various communities have been treated unfairly, keeping information presented in class neutral but comprehensive (for example, including LGBTQ-friendly information in health class), and promoting a welcoming atmosphere of friendly disagreement and discussion in their classroom.

- One of the most helpful tools a teacher can give their students is the practice of disagreeing well and entering into arguments with good rhetoric instead of

bullying and verbal abuse. Too often students react to the strange and unknown—for example, another student who may have made different life choices from them or come from another background—with confusion, anger, and insults (or fists). Preparing your students to meet the confusing and unknown with curiosity, excitement, and wonder as well as equipping them with the right mindset for learning more instead of shutting down will not only aid your classroom experiences, it will make them better citizens of the modern world they will be entering.

What are a few practical ways that teachers can make their classrooms more welcoming and inclusive?

- Make your classroom a punishment-free zone (as it makes sense). If students know they can ask you questions without repercussion and explore new territory without being penalized, they will be more naturally likely to reach out to you for information and let you know when they need help.
- No matter what your subject is, find ways to include representation of all the disparate communities which make up the world in your presentations, projects, and other assignments.
- Finally, if there is tension in your classroom, don't ignore it (or put the principal players in a group and passively expect them to befriend each other and work it out). Holding class-wide or school-wide events—for example, a wholehearted participation in Black History Month or in LGBTQ-friendly events—can be a good and positive occasion to help clear up any confusion which might be leading to a negative environment in your classroom.

Does the specific act of welcoming students into your classroom and working to create an inclusive atmosphere assist the aims of general education?

Yes! If we take it that the aims of education are very generally threefold, welcoming students and working towards an inclusive, collaborative environment is an investment in each aim. Schools must aim to keep their students safe, to prepare students for life after school, and help students achieve basic mastery in general education subjects as determined by administrative and governing standards. Fostering a welcoming atmosphere of education will help keep students safe, instill in each student habits that will make them good citizens, and allow them to keep focus on their studies and projects instead of worrying about their basic safety or classroom politics.

Educational Trends to Keep an Eye Out for in the Next Decade

We've discussed several educational trends that are flourishing right now—embracing current technological advances, delving into the psychology of how each individual student learns, and finding ways to think beyond the classroom.

If there is one thing which we know for sure, however, it's that we don't currently know all there is to know about how children learn—and that educational psychologists still have a lot of work to do in aiding the evolution of our teaching styles. Therefore, even as we work to update our teaching philosophies based on current data and current trends, we must put ourselves in a creative, expectant mindset and be willing to change with the times.

With this in mind, we've collected a forecast of the likely trends to watch in the years to come.

- ***Shifts in Assessment:*** With growing certainty that standardized tests are not the most certain way to measure growth, progress, or even mastery in many subjects, a move towards more creative and holistic methods of ascertaining a student's familiarity with a subject prior to forward progress or the culmination of studies is going to be implemented. Some states are embracing this even now: In the state of Washington, there are now seven approved ways to receive a high school diploma—and not all of them require passing tests along the way.

- ***Virtual and Remote Laboratories:*** With the expansion of the classroom and increasing Internet-based technologies, it is expected that soon schools all over the globe will be able to tap-in to high-tech research laboratories to use their resources from afar. While the disciplines of chemistry, physics and biology will be immediately able to utilize this high concept, it is by no means restricted to just the sciences.

- ***Professional Development from a Younger Age:*** Allowing students to specialize in specific disciplines related to future courses of study and even careers, allowing internship-like experiences from a young age: One of the tenets of education in future years is going to be extreme practicality, allowing students to learn what they want and need even from early years.

- ***More Flexibility in School Attendance and Projects:*** To allow for families of the future to make decisions for their children as well as with the rising ubiquity of internet-based learning, we expect to see a rise in flexibility of students switching between schools, between academic tracks, and even between in-school and at-home learning. Increasingly, we will be bringing education to the student, rather than the other way around.

Key Concepts

- Students need to be safe in order to learn—yet, with rates of bullying continuing to skyrocket, students do not currently feel safe in school. Focusing on increasing protections for students and discouraging bullying behaviors needs to be a major focus in the coming years.
- The expansion of the classroom is not limited to distance learning and external opportunities; it's also a question of who feels safe and included in our classrooms.
- Education will always be evolving, as education is centered on the student—and we are only learning more each year about how children learn. Therefore, it's best to be prepared for paradigms to change by the year, if not even more frequently than that. Indeed, one metric of a truly student-focused educational environment may be near-constant change in a school's methods of educating their students.

Reflection Question

As we expand the classroom and effect change for the better of our students, think about the ways in which you keep your classroom inclusive and dynamic. Are there ways within your teaching style by which you can better embrace the future?

Summary

Reading, writing, and arithmetic: Teachers were tasked with teaching children three subjects, according to education's anecdotal beginnings, and often had to manage a whole classroom of differently-aged children all by themselves. We have come a long way. Along with greater resources, we now have greater responsibilities—and enhanced opportunities to serve our students.

Psychologists and developmental biologists are learning more each day about how children's brains develop, learn new information, and grow. As teachers, it's up to us to take what they've learned about learning and form new theories of education best suited to expand upon those biological insights. The currently seen trends in K-12 education are the results of our current attempt to do just that.

By taking the time and initiative to delve deep into what makes each individual student tick and then working with science to determine ways to best reach that

student, we are setting the next generation of citizens up for a lifetime of success. It is just that responsibility, though, that gives teachers pride. Being able to teach students far more than just their assigned academic subjects; being able to help form them into the best versions of themselves, the upstanding global citizens of the future—that aim is the goal to which every educational trend, past, present, and future, seeks to achieve.

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Introduction

The latest hot trend in education is here—and it's tiny. Micro and nano learning represent bite-size learning modules that students should find accessible and entertaining. Their teachers should find them easy and effective. Why are we focusing on brevity? Studies are showing us that particularly in the wake of the mass transition to remote learning that occurred in 2020, students' attention spans are dwindling. Children have Zoom fatigue, too—and teachers are scrambling to find ways to reach their students both in and out of the classroom to teach in the most efficient way possible.

Micro and nano learning may be the answer. With microlearning, students focus on 15-minute learning modules that have hyper-specific learning objectives. Nano learning takes it to a new, even smaller level with modules that are perhaps one to ten minutes long and focus on one to three very specific skills.

How are teachers supposed to teach effectively in these tiny segments? Is this learning philosophy really as effective as it seems? In this course, we'll examine the research underlying this most recent trend, talk about its benefits and drawbacks, and conclude with practical tips for teachers who wish to leverage this strategy in their classrooms.

Section 1: Why Microlearning and Nanolearning Are Important

We've covered the basic overarching definition of microlearning and nanolearning: The briefer, the better. It's likely just as key to understand why these trends are important, what benefits they could bring to your classroom—and whether they're here to stay. Is there a more defined descriptor of microlearning? What's the difference between microlearning and nanolearning? Can we dismiss this trend, or do we need to pay attention? We'll cover these questions in this first section.

What is microlearning?

Microlearning is a learning philosophy that leverages brevity to provide the most impactful learning experience possible for students of all ages, including children—as well as adults. The benefits of this teaching method have been recognized across professions. For example, many 21st-century businesses are reformulating their

processes and including microlearning strategies in corporate retreats, employee onboarding, and ongoing professional development (Andriotis, N, 2018).

Now, it's seeping into K-12 academia for students nationwide. Why? Microlearning works to provide effective learning in the smallest possible doses. Full of bite-sized learning units and very short-term activities meant to enhance comprehension and engagement, microlearning is all about providing as much educational value as is possible in as little time as possible (Andriotis, N, 2018).

Within microlearning modules, teachers provide students with many different types of content, including text, images, audio, videos, and games. Why? Not only does providing differentiated content reach students with many different learning modalities, but alternating the type of content also helps students stay focused for longer and provides variety among the many different tiny content units (Andriotis, N, 2018).

As microlearning is a burgeoning trend, particularly in the wake of the COVID-19 pandemic, there are many app-makers and software distributors that are building tools to help support bite-sized learning. While teachers can certainly embrace microlearning strategies on their own, the growing variety of creative, accessible, and affordable tools out there that help provide tiny quizzes and games for eager students can make this a lot easier (Andriotis, N, 2018).

Microlearning isn't necessarily a new phenomenon; ever since the invention and widespread use of the modern smartphone, we've been seeing forms of microlearning all over the place (think: daily language learning apps, or 10-15 minute podcasts with episodes that concentrate on a very small, specific historic event). One of the reasons this learning model has become so popular is because of the modern adult's inherently busy schedule—and, possibly, due to the shortening of our collective attention spans (Andriotis, N, 2018).

Regardless of why it is popular now, it's becoming the newest trend in grade school academics. This is because microlearning does confer specific benefits that are more difficult to obtain in more traditional, longer-form types of teaching and learning (Andriotis, N, 2018).

What are the benefits of microlearning?

The process of microlearning offers several advantages to both student and teacher. These benefits include (Andriotis, N, 2018):

- **Quick delivery times** - Microlearning involves much smaller, shorter lessons (or, as they're frequently termed, 'modules') that don't take long to develop; in many cases, instructors have reported building out an entire course within about an hour or so. This makes it very easy to create learning modules based on current events, the latest research, or updated direction from the administration if need be. This can, if leveraged well, also result in less work for instructors—particularly if some type of sharing or resource-pooling system is worked out.

- **Higher affordability** - Perhaps because of the previous point, microlearning courses tend to be much cheaper to make (and, usually, teach). Typically, teachers don't need any special tools to create content. If your school opts to invest in a microlearning platform or suite of resources, that may be associated with costs—but content creation and microlearning instruction itself should be a breeze.

- **Incredible versatility and specificity** - With microlearning courses, teachers can cater the learning experience of their students in many different ways. Teachers can create non-overwhelming lessons filled with basic information and support for beginners, modules that overview entire subjects with just the need-to-know information; or even niche microlearning courses that dive deep into a complex topic.

- **Great student responses** - Students of all ages tend to really appreciate the accessibility of the microlearning style—as, in many cases, the amount of effort associated with microlearning from the student perspective feels comparable to that of checking a preferred social media app. Even paper or in-person microlearning modules seem comparable to short activities, rather than arduous assignments. This type of learning doesn't feel as difficult or as intense, and even if the subject at hand is one that the student doesn't naturally like as much, the duration of the learning experience will only be about 10-15 minutes at most—making the entire event seem much more accessible in any case.

- **Higher levels of information retention** - These benefits may sound great so far—but does this style of teaching actually work? So far, according to the research reported by the microlearning community, it does appear that this type of bite-size, repetitive, and ultra-engaging educational style actually increases the learning ability of most students. Why? As it turns out, when you introduce information in a very accessible way, revisit it often, and iterate slowly with a great deal of strategic repetition, it becomes virtually impossible to forget the

information you're concentrating on—and it provides ample opportunity for clarification and comprehension.

- **Increased flexibility and student freedom** - If teachers are interested in giving students agency in their own learning experiences, they can do no better than investing in tiny stints of microlearning modules. The feel for students is similar to a buffet: They know they must eat something from the table, but they can often choose what and when. This results in higher enthusiasm and a more adventurous association with education.

With all of these benefits, it's easy to wonder why anyone wouldn't want to be on board with the microlearning trend! However, as with all new learning philosophies, there are downsides that may become apparent with time. To keep our review balanced, we'll next discuss the various limitations of microlearning (Andriotis, N, 2018).

What are the limitations of microlearning?

The limitations of microlearning are as follows (Andriotis, N, 2018):

1. **Microlearning might not be the best for highly complex subjects.** While it may be possible, in some cases, to deliver a targeted insight about a specific topic, theorem, or problem that relates to a higher-level subject, there are other instances in which it truly is better to be able to expound on a subject, take questions, or go over practice problems for a longer period of time. It's definitely possible to utilize shorter, choppier lesson segments to do so, but it may take larger amounts of creativity on the part of the teacher—for example, finding a way to break down a larger, more complicated subject into connected videos in a series).

2. **Microlearning may not be the best for every learning modality.** The idea behind microlearning should appeal to the ways that most students enjoy engaging with their studies. However, there will be some students who naturally prefer to spend a long time reading dense text, or who need to wrestle with information for a longer period of time before moving on to the next thing. Of course, one of the defining benefits of microlearning—its brevity—does allow students to repeat modules as they need for comprehension. In other cases, initial exposure to information in a microlearning module followed by one-on-one support from a teacher may be enough to resolve any issues that students experience.

As with all learning strategies, there are benefits and drawbacks of microlearning that teachers will need to understand and navigate if they are going to implement these practices. Next, let's discuss why microlearning is popular as a current educational trend. What was the trigger for creating short and highly focused lessons?

Why is microlearning coming into the spotlight right now?

Short answer: Microlearning works well with the attention span and focus that modern students tend to have.

There are many who argue that maintaining focus is a lost art. To a certain extent, they're right. Whether it be due to the increased stress and anxiety of the past few years, or because of the prevalence of social media and bite-sized communication, it's clear that the human attention span is diminishing. One recent study proposed that the average attention span of humans right now is only eight seconds long—a second less than that of an average goldfish (Elm Learning, 2021).

This may not be an entirely bad thing, although many education and behavioral health professionals will point to this stat and consider it one of the hallmarks of the crumbling of our society. As our collective ability to focus has decreased, our ability to multitask has increased. Our brain's capacity to process increasingly complicated information has also improved. We're doing more things with greater efficiency. The trade-off, seemingly, is that we can't focus on any one thing (easily) for more than a few moments (Elm Learning, 2021).

This has led some education researchers to hypothesize that we have two choices before us: We can try to fight our natural tendencies to tackle multiple projects at once and take in shorter and shorter content—or we can leverage this hyperactivity (Elm Learning, 2021).

Enter: Microlearning. If this trend becomes more mainstream, we may see fewer hefty textbooks, day-long workshops, and the types of educational or training sessions that most people would term "tedious." Instead, much of teaching will focus on crafting the perfect nugget of relevant, strategic learning information and delivering it in the most effective way possible (Elm Learning, 2021).

One of the tenets of microlearning outside of the classroom is that a person can access the knowledge they want when they want it: Think 10-minute TED-Ed videos, or a 6-minute language lesson on a handy, beautifully-animated app (Elm Learning, 2021).

When bringing these strategies into the classroom, you necessarily remove some of that agency: Your students are not adults, and you do have curriculum-driven goals that you and your students need to accomplish. How can you leverage this learning philosophy when the truth of the matter is that, sometimes, your students may need to tackle complex topics that may require more than 10 minutes of introduction (Elm Learning, 2021)?

We'll discuss how to integrate microlearning principles into your teaching technique in a later section of this course. For now, let's discuss the main forms that microlearning takes on in modern classrooms.

What are the most common types of assets used in effective microlearning (Elm Learning, 2021)?

Fortunately, microlearning as a concept is easy to adapt to many different platforms. Consider the following popular forms that microlearning has taken just over the past few years:

- **Videos.** Whether they are hosted on a paid platform or freely available on YouTube (or a similar service), the Internet abounds with quick, easily-digestible videos consisting of filmed presentations, animations with narration, or other brief overviews of topics ranging from the very simple to the very complex. Of course, as with anything found on the internet, there's also a definite range in quality.

- **Educational applications.** It's hardly relevant to talk about apps as if they're a new trend, but phone and tablet applications are one of the most-used conduits of education for students of all ages. In 2019 alone, there were 204 billion downloads of various applications, and every year brings with it different portable opportunities for education and entertainment. With different program-building apps, educators and school systems can also create custom-feeling applications that cater to their own students' specific needs—or just find very targeted ways to reach their students where they are through the social media application du jour. It can take work to get up-to-date and fluent with these applications, but doing so can help schools increase their accessibility for their students.

- **Gamification.** Adding elements of competition or gameplay to academic settings helps boost motivation and interest. It also boosts performance. One recent study found that increased gamification made the performance metrics in one

community soar by approximately 35%. When you put together strategies from both microlearning and gamification theories, it's easy to review already-presented ideas or introduce new information in as little as five minutes, while keeping your students engaged in a relatively easy manner. This doesn't have to involve high amounts of teacher investment at all times, either: For example, assign your students a hands-off challenge, promise some type of reward to the person who achieves the highest score or the quickest time, and watch even the least-interested student get involved.

- **Social media.** Social media gets a great deal of negative attention these days, but these types of strategies may be the way to go when you want to reach your students. This doesn't have to be a bad thing. Finding creative ways to curate and influence your students' social media feeds—having them follow museums and scientific organizations, asking a student to create a social media profile as a historical figure or to disseminate literary quotes, and just making sure that your school's profiles are accessible can provide tiny nuggets of knowledge that your students won't be able to miss.

What is nanolearning? Is it the same thing as microlearning, or is it any different?

Nanolearning, or bite-sized learning, espouses the same general philosophy as microlearning…just in an even smaller package. Where a microlearning module would likely be around 10-15 minutes in length, a nanolearning capsule would be less than ten minutes long—as short as a two-minute chat with an expert on one very discrete, specific bit of information (Arpana, 2021).

One formula, one logical point, one piece of trivia, or two to three questions about something that your students learned yesterday: Nanolearning offers a way to tap into the short-to-long-term memory cycle in a very brief but effective way (Arpana, 2021).

Nanolearning usually depends on digital media for at least the initial connection, although an in-person (or real-time remote) instructor can use the same strategies during class (Arpana, 2021) .

Many of the same pros and cons apply to nanolearning that are present with microlearning. For example, two minutes may simply not be long enough to dive deep into a very complex subject; it's perhaps used better as a mental break between other

concepts, or to provide a quick summary or assessment about a concept covered earlier in another (perhaps longer or more traditional) way (Arpana, 2021).

Nanolearning is currently applied outside of the classroom for professional development, edutainment, and even corporate training. In these instances, companies will administer training and development through brief pieces of text and short videos sent directly to employee phones. On a similar note, there are those who predict that our learners will "learn more from Snapchat than school, more from YouTube than libraries, and more from TikTok than the NY Times." Quippy quotes aside, it does appear that in some cases traditional schooling systems could, perhaps, benefit from leveraging the type of short content that easily targets the short attention span of a modern student (Arpana, 2021).

For the purposes of this course, as the primary distinction between microlearning and nanolearning is the length of time involved, we'll refer to the general concept as microlearning. Many of the same principles, underlying scientific rationale, clinical research, and strategies apply to both teaching tactics.

Why is microlearning here to stay?

Microlearning is coming to the rescue now, as we're all dealing with the Zoom fatigue accelerated by the pandemic. However, at some point, the pandemic will be over. Many will return to in-class schooling—and even those who decide to continue with remote learning programs won't necessarily need pandemic strategies to effectively gain knowledge (Chandramouli, 2021).

Microlearning is far more than simply a pandemic learning strategy, as it turns out. We'll discuss in the next section how microlearning works with a student's neurobiology to help learn in the most efficient way possible—pandemic or not (Chandramouli, 2021).

In short: Microlearning does not appear to be a trend; rather, it seems like it's an effective strategy that will continue to be beneficial in the future. Educational researchers believe that, moving forward, microlearning will endure as a viable strategy for instructors who leverage it in a valuable and productive way (Chandramouli, 2021).

Skeptical? Here are several reason why microlearning (and nanolearning) will be around for a long time (Chandramouli, 2021):

1. **Microlearning can cater the learning experience precisely to a student's specific learning needs.** Whether students need to study a specific concept for an

upcoming exam, prefer one type of media over another, or prefer (or need) to perform their studies in bite-sized chunks or between other activities, offering your students microlearning modules is much more flexible and personalize-able for all students in each step of their unique learning progression. As the future of education will likely continue to prioritize engaging, often-individualized learning opportunities, microlearning will persist as a good choice to make that happen.

2. **Microlearning teaches according to the Pareto Principle.** The Pareto Principle states that 80% of the effect comes from 20% of the effort. It is a principle that is used widely in many different fields. In education, the concept that the vast majority of true learning comes from a small portion of the time and effort invested mirrors the value add of microlearning perfectly. This ideology can be attractive for both students and teachers as well - the idea that they can achieve good results with less time, as long as that time is very strategically spent.

3. **Constant learning reinforcement is built into microlearning.** When students are learning something effectively, they need to be introduced to the subject initially —and then re-introduced, as they are presented with summaries, assessments, and opportunities for incorporation of and engagement with the new information. With microlearning and nanolearning, a student can jump very quickly from the introduction of one subject to the reinforcement of another, all within a very short time period. This type of fast-paced learning is agile, effective, and able to provide different iterations of learning for students who may require more or less reinforcement for learning to 'stick' effectively.

4. **Microlearning helps students and teachers alike set and monitor realistic goals.** Within a given microlearning module, the goals and expectations (as well as the targeted information to be learned) will always be very specific and well-defined. Therefore, assessing whether a student has become familiar with the needed information will be a much easier task than in larger, more unwieldy types of subject assessments. For example, instead of taking a quiz that covers biological concepts learned over the past month, an assessment might only have to focus on how well the student understands one specific principle. A few questions, a quick conversation, or another similarly-brief assessment activity should make the student's familiarity of the subject clear - instead of an entire test bank, one that will have to be taken by the student and then graded by the teacher.

5. **Microlearning helps fight learning fatigue.** We're all familiar, now, with the term 'Zoom fatigue'; it's key to remember that, particularly in a post-pandemic world,

students tend to suffer from 'learning fatigue' as well. Even before the pandemic or long after it, we've all recognized the learning fatigue that comes at the end of a long semester. (Similarly, the learning overwhelm that happens at the beginning of the school year or just after a long break can create a significant obstacle for many children). By breaking up lessons into small, manageable sessions that a student can take or retake as often as is needed, learning becomes less overwhelming, more accessible, and less likely to cause fatigue. One reason involves the brain chemistry that is associated with getting things done: Once students successfully complete one 10-minute module, they will experience satisfaction for having accomplished something—and therefore be more likely to move willingly toward their next accomplishment.

6. **Microlearning tends to be budget-friendly.** With the scarcity of teachers supporting America's students as well as the distinct possibility that education may not be a priority for increased government funds over the next several years, it's more important than ever that we can provide students with stellar educational opportunities without breaking the bank. Microlearning is surprisingly affordable, especially when you consider the amount of personalization it offers to the student. By selecting microlearning modules from a prepped bank of media offerings or quick activities, learners can choose their own educational adventures, often without many required resources at all.

Section 1 Reflection Questions

- How long do you think your attention span is? Do you think that it's gotten longer or shorter over recent years?
- Do you already engage with microlearning in any way? Perhaps through a fun social media follow, or through an educational app on your phone?
- Which of the benefits of microlearning do you think would work best for you and your students? Which limitations might most closely apply?
- How do you think you would use nanolearning—e.g., extremely short microlearning—to your advantage in your classroom?

Section 1 Key Points

- Many corporate and professional companies are using microlearning for onboarding and development.
- Microlearning works with the realities of our ability to focus and our attention spans.
- Microlearning and nanolearning can be very effective and efficient ways to teach—but we do have to make sure that we leverage them in the correct way.

Section 1 Summary and Conclusion

Even though microlearning might be a trend spurred along by Zoom fatigue, it's definitely an educational strategy that has a great deal of exciting potential that we can harness for the benefit of our students. However, it's also easy to see how it could be difficult to get stakeholders on board: Can students really learn effectively in ten minutes or less?

In the next section, we'll work toward an answer to that question by diving deep into the research underlying this educational philosophy.

Section 2: The Research Behind Microlearning and Nanolearning

Why do all the work to make the change to microlearning teaching techniques? How would you justify ten-minute lessons to your community, if you had to? If you're interested in updating your teaching techniques and maybe saving some time and mental effort, it can be a good idea to think about incorporating at least some microlearning tactics. However, since it can be a bit of a revolutionary concept, it's a good idea to go in with a good understanding of the science involved. That's what we'll cover in this section.

What does the research say about why microlearning works?

Microlearning is certainly a novel idea; and it can perhaps be clear why it might, simply for that sense of novelty, be able to engage students with its format—at least initially.

However, the hope is that microlearning is a sustainable way to see good results with your students and reduce the effort that goes into a teacher's day. It's very possible that this statement sounds too good to be true. In order to understand why this has a hope of helping, we'll take the next section to delve into just why microlearning works—and how that knowledge should influence our teaching styles (Elm Learning, 2021).

There are measurable benefits associated with putting students in charge of their own educational experiences. While students won't be able to have complete autonomy over their learning journeys, introducing a microlearning framework gives them the opportunity to make their own decisions. This increases interest, drives engagement, builds confidence, and promotes valuable conversation between students after they've each experienced microlearning in their own way (Elm Learning, 2021).

Studies have clued us into the reality of a student's attention span. More traditional educational frameworks have required us to lecture for a half hour (or more) at a time, assuming that children are actively listening or taking notes. Even more engaging activities, such as experiments or discussions, often rely on the assumption that a child is able to stay focused on that activity for a relatively lengthy period of time. Contrast that supposition with the latest data coming out of student-focused studies, which demonstrate that a student's in-class attention—even focused attempts at renewed attention spans, which typically don't last longer than a few minutes—wanes after approximately 18 minutes of one activity. Largely speaking, the student never recovers focus after those first few moments (Elm Learning, 2021).

To paraphrase an analogy expressed by one of the researchers in the study: students today are looking for snacks. We tend to prioritize feeding them Thanksgiving dinners, in the form of courses that drag throughout warm afternoons and discussions that could be completed within a few minutes instead taking hours to get through (Elm Learning, 2021).

Researchers theorized that short spurts of microlearning with targeted mental breaks in between—which doesn't have to mean actual rest, but rather a different activity; a 'palate cleanser,' if you will—will be the answer to the shortened attention spans we're seeing. By strategizing with these actions, we'll see learners that may be perceived as lazy or overstimulated become the hyper-efficient learners they can be (Elm Learning, 2021).

Analyzing the recent studies focused on elucidating the ways in which microlearning is good for us results in the following revelations:

Our brains literally light up when we engage in microlearning activities. One of the selling points of microlearning is that it is based on sound neuroscientific principles. Focused spurts of activity should harness the way our brains are wired to learn, despite our receding ability to focus as our ancestors might have been able to. Here's a quick map of the brain as it relates to microlearning well (Elm Learning, 2021):

- Your brain's prefrontal cortex is the part of your brain that works to intake new information and make new decisions while enhancing goal-directed actions.
- On either side of your prefrontal cortex is your hippocampus and your amygdala, which co-modulate and balance each other.
- When faced with a microlearning prompt—the challenge, in other words, to learn something new in the most efficient way possible, these parts of your brain light up, as your brain thrives on efficiency.
- Your hippocampus filters through the various pieces of information you're seeing. It then makes a quick judgement about the importance of each piece of information. If you're in microlearning mode, the information should *all* be perceived as important—which means that it will all get mental priority. (When your brain knows that it has more time to digest information, it ranks the information in order of perceived importance and sends less-crucial information to storage, essentially).
- Your hippocampus also has a constraint or challenge of its own: It can only hold about twenty minutes' worth of information at maximum capacity. Before that time is up, the hippocampus needs to know where to "send" that information in your brain, or your brain will discard it and it will become irrelevant.
- With the typical microlearning framework—in which a concept is introduced, re-stated, reviewed or tested in 10-15 minutes—your hippocampus has enough time to understand and route the information, but not enough time to become complacent and de-escalate information that should be prioritized.

We can see evidence for this chain of events in our tendency—for both us and our students—to multi-task. If we're doing something for, say, an hour, once our hippocampus gets full and completes a cycle of routing or dismissing information, it will naturally seek something else—something different from that hour-long activity—to latch onto. This natural limit, once our hippocampus fills, about twenty minutes in, is

when we tend to take out our phones or get really invested in selecting a good playlist to work to. It isn't a sign of laziness; it's a neurobiological imperative (Elm Learning, 2021).

We can choose to fight that or work with it. There isn't a right answer; both systems of productivity have pros and cons, especially for different people with differing goals. With microlearning, we seek to leverage the benefits of working with our brains, and around our ability to focus (Elm Learning, 2021).

While the hippocampus is acting as the gatekeeper and director of new information, the amygdala is also getting involved. The amygdala is the part of the human brain that controls the processing of new emotions and regulates sensory experiences. The amygdala and the hippocampus work together by ensuring that new emotional or sensory experiences help improve retention of new knowledge (Elm Learning, 2021).

We can hack this natural pathway by stacking our microlearning experiences to provoke alternating informational and emotional or sensory experiences. For example, after a brief (micro!) presentation on a new subject, the next microlearning module would invite the student to experiment with the new idea, preferably by walking around or interacting with a physical object; or, alternatively, asking the student to engage with the idea on an emotional level—perhaps by connecting something that happened in literature or history to something that happened in their own lives, or by imagining in detail how scientists and philosophers felt when they first discovered new theories (Elm Learning, 2021).

Using short stories, beautiful art, or witty humor can help provoke an emotional response. One way to jumpstart the amygdala is to pair a good story or piece of art with required new information. The key? That the story or art involved is short and accessible. This "stacked" learning style will also help students feel more accomplished—they're learning art in addition to science!—which, in turn, will help them be interested in working further. Our brain tends to hold onto things that make us smile and laugh; later, when we recall the joke, we'll recall the lesson as well. Triggering the amygdala in this way will also put us in a positive mood, which can strengthen an association between learning and positive emotions (Elm Learning, 2021).

The duration between micro-lessons may matter

If the goal is to expose your learners to new information and then give their hippocampus enough time and stimulus to convert that information to long-term memory (instead of deleting it due to fatigue, boredom, or over-exposure), it's key to give the brain adequate time to recover between lessons.

If we're training our brains to do a significant amount of work, they will require down time to build and strengthen their neural pathways (Elm Learning, 2021).

Studies into human psychology suggest that placing a 12-hour gap between learning sessions concentrating on the same (or similar) material can help the brain understand what it's learned and prepare for more information in the most efficient way. (Fortunately, this works with the popular model of daily recurrent lessons for most students). One 2009 study published in *Applied Cognitive Psychology* reported that the performance of their surveyed participants improved by an incredible 90% when they allowed for a significant period of time between study sessions, instead of cramming for hours the night before a test. Again, this is hardly shocking (Elm Learning, 2021).

Microlearning gives us the opportunity to take this accepted fact to a whole new level. For example, another study into students and their reading habits found that digesting information in short spurts—a few minutes, nothing more—and doing mindless filler tasks in between led to much better recall of the covered information a full week later than students who had sat down and read the assigned passage in one fell swoop (Elm Learning, 2021).

The specific length of microlearning sessions may matter

We've discussed the neuroscience behind focus and retention; does this mean that there is some type of (scientific) guidance for just how long a microlearning module should be?

Yes. Each microlearning module should be about ten to fifteen minutes—and should concentrate less on packing as much information as possible into those fifteen minutes, and more about telling compelling information in an easy-to-remember way. Then, you can stack those 15-minute sessions together with short, active breaks in between. According to the scientific studies we have available in this arena, this will have a deeper impact on your learners than a more typical 75-minute soporific presentation (Elm Learning, 2021).

It's also a good tactic, in order to make those fifteen minutes as impressionable as possible, to focus on exciting a specific sense with each session. For example, in one session, go visual with your information, and discuss paintings, give your student an infographic, or present a brief video elucidating a complex topic. At the end of the microlearning session, take two to three minutes to recap the key points or themes from the painting/graphic/video, and then let your students walk around for five minutes

before returning and (in a second microlearning module for the same general topic), listening to something, working on a tactile project, or performing a role-play related to the topic (Elm Learning, 2021).

Timing, in addition to duration, may matter for microlearning strategy

In order to take advantage of the exposure-to-retention information cycle in the average learner's brain, it's often a good idea to juxtapose exposure and retention activities relatively quickly. For example, an exposure activity might be a video about a new topic; the retention activity—performed shortly thereafter—would be a short, low-pressure quiz, an improvised skit, or an open discussion about what students remembered from the video (Elm Learning, 2021).

Alternatively, waiting until the end of the day (or a few hours later) can also work to send information from the brain's staging area to long-term memory; for example, pushing a quiz to your student's devices at the end of the day to ask a few "bonus" questions about a conversation you had earlier in the day (Elm Learning, 2021).

Ultimately, the takeaway here is that microlearning is at its best when it's performed often. Why? This primes the brain to be constantly whirring—and constantly ready—while your students are at school. Preparing small mini-lessons that your students can truly absorb anywhere also helps remote learners and parents at home: If they know there's a specific infographic to review or video to press 'play' on when there's a down moment after dinner, students can integrate learning more easily into every part of their day (Elm Learning, 2021).

The macro results that often accompany microlearning

As a rule, students tend to love microlearning.

No one loves the prospect of sitting down for a 90-minute lecture; by contrast, playing a 9-minute game, having a 12-minute conversation, or watching two short videos and writing a brief summary seems like an easy task (because it is). What's more, children today are busier than ever. Giving them tasks that they can easily fit between sports practice and dinner makes it far more likely that they'll actually be able to get more done (Elm Learning, 2021).

What's more, microlearning comes with several perks for teacher, learner, and family alike. These include (Elm Learning, 2021):

- The ability to provide quick, relevant, and continuously-updated new material: If you've built a 90-minute presentation or 30-page handbook for your students, you're not going to want to frequently update these tools —it's simply too large of a task. With micro-learning, if something new or innovative happens in the area that you're teaching, you can easily swap out an updated video, edit a small, easy-to-manage PDF, or decide to play a different game for those ten minutes.

- The ability to further education no matter where you are: Educators, families, and students alike should be able to access many of the materials most popular in microlearning from their phones or other device.
  With the applications available today, educators may even be able to produce teaching materials no matter where they may be.

- Increased learner interaction: When your students engage more with what they're learning, they will retain more. Short videos, audio recordings, games, quizzes, and discussions—in short, varying the learning activity as much as possible!—will help your students engage more. This results in more efficient learning, as well—which means that you can do more meaningful learning in a shorter amount of time.

- Increased learner autonomy: With many different types of learning activities, learners will likely be more willing and able to identify the types of activities that work well for them. In addition, students should be able to take ownership over their learning—requiring less and less help over time from their teachers and peers. (In other words, this allows students to find the "path of least assistance" much faster than more traditional teaching and learning methods).

Section 2 Reflection Questions

- Imagine that one of your students' parents or a member of your school's administration is asking you to defend your microlearning choices. What neuroscientific principles would you present as evidence? How would you succinctly describe why microlearning works?

Section 2 Key Points

- Microlearning and nanolearning are successful because they specifically work with the way that your students' brains work. Controlling the flow of information

into digestible nuggets and allowing your learners to have control over that flow improves recall of relevant information and drives engagement.

- Microlearning specifically engages the parts of the brain that influence the ability to pay attention, keep the learner emotionally invested, and convert short-term memory to long-term memory.
- Although a variety of shorter times may work for a range of people, microlearning is at its best when the required information is broken down into 10 to 15 minute modules. In addition, it's key to incorporate microlearning into a repetitive routine, using modules to introduce, review, and cement new information over an extended period of time.

Section 2 Summary and Conclusion

Our attention spans are getting shorter; we can choose to work with that or fight it. The microlearning educational philosophy chooses to work with our brain's prerogatives. By understanding how our brains work, we can hack our neurobiological processes to get more done in less time—leaving more time for one-on-one support, more creative lessons, deeper conversations, or anything else that's on our educational wish lists.

One question remains: How can we incorporate microlearning into our current curricula? Is there a way to efficiently and effectively use microlearning some of the time, so you don't have to revamp your entire teaching system but still can take advantage of what microlearning has to offer?

That's what we'll discuss in the third and final section of this course.

Section 3: Incorporating Microlearning Strategies in Your Classroom

If you've ever jumped to the end of a recipe blog to get to the important information or skipped past a chatty introduction on a YouTube video or podcast, you're aware that not all content—even educational or informational content—is equally weighted in terms of value. Moreover, with the screen and schedule fatigue that all of us (even our youngest students) are experiencing today, it's clear that we need to optimize every moment of our teaching and learning structures to be as accessible and effective as possible.

What is the typical structure of a microlearning or nanolearning course?

When microlearning and nanolearning courses are used for corporate training, professional development, or for opt-in courses offered through phone applications (think: Noom for the science behind weight loss and healthy eating, Duolingo for language studies, or other similar and popular applications), they typically follow this structure (Arpana, 2021):

- The microlearning or nanolearning course will range in duration anywhere from five to thirty days.
- Each lesson (or 'module', or 'capsule', as several different units may join together to form a traditional 'lesson') will last five to fifteen minutes, with any outliers being rare. Longer lessons, if any are essential, may include some disclaimer or even warning about their length.
- Each lesson will center around one of the following activities or pieces of media:
    - An image, quick video, or GIF
    - A singular concept
    - An illustrative case study
    - A simple exercise or question
    - An elicited response from the student—e.g., a quick paragraph, drawing, or other type of assessed input
    - Course, instructor, or subject feedback from the student

While this type of learning structure is very different from longer, traditional, more consistent-in-content coursework, it does seem to be immensely popular. One reason? Its accessibility. However, as noted elsewhere, microlearning and nanolearning may not be a good fit for some more complex subjects or for students whose learning preferences are better matched with longer, more in-depth conversations or presentations (Arpana, 2021).

Additionally, due to the relative novelty of microlearning and nanolearning in K-12 education, it's easy to use it in a way that fits your learning environment and style and that will allow you to incorporate its strengths and benefits into your existing

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educational strategy. Later, we'll discuss ways to subtly add microlearning into a more traditional teaching framework.

What are the best practices for microlearning?

As you may imagine, it's easy to implement microlearning poorly—resulting in students who are merely confused and overstimulated instead of happy, effective learners.

Let's make sure that doesn't happen. Before you invest in microlearning infrastructure or a considerable amount of content planning, consider the following recommendations for microlearning success (Andriotis, 2018):

1. **Check to see whether microlearning is actually best for you and your students.** No educational trend is a one-size-fits-all solution. As attractive as the benefits associated with microlearning might sound, that alone doesn't mean that you should jump in blindly and hope for the best. Instead, take your time to research and assess whether you and your specific class of students would likely benefit from this type of strategy. If your students exhibit frustration with microlearning or are constantly asking to repeat modules, or if you consistently go over the 10-15 minute limit, or if anything else happens which makes it clear that this is more of a burden than it should be, it may be the case that microlearning is not the preferred or primary strategy to use for that specific class. Furthermore, microlearning can certainly function as a supplemental or review form of learning in almost any case.

2. **In microlearning, every word matters.** Act like it. As teachers are putting together microlearning modules, it can be tempting to just copy and paste large swathes of text originally meant for longer-form teaching methods. While this may work in some cases, it may not be the best strategy for hyper-brief modules. If you don't rewrite the content to be very focused and to succinctly address the essence of the point you're trying to get across, you'll end up diluting the content too much. Your students may miss your point, and your targeted learning modules will be much less effective.

3. **Take advantage of multimedia and differing learning formats.** Just because you're leveraging brevity doesn't mean that this is the only thing that should influence your planning decisions. Teachers who are used to varying their lesson structure and teaching strategies to keep their students engaged and to reach students who learn in different ways should continue to do this. Pepper your

short presentations with illustrations, videos, quizzes, animations, and brief activities. However, the same point about the inefficacy of extraneous words applies here: You only have enough room for a few visual assets, so make sure to choose those that enhance comprehension instead of distracting.

4. **Consider investing in gamification.** For young students particularly, the concept of gamification adds a strong layer of engagement and motivation to almost any subject. Layering in a point or competition system with your brief, to-the-point lessons will ensure that your students remain hyper-focused on the content.

5. **Pair brief lessons with brief assessments.** Your microlearning strategies should apply to your entire educational structure, at least for that specific subject. In other words, if you're using microlearning to help your students comprehend biology, don't make the biology exam a 150-minute affair. Instead, incorporate very quick quizzes, writing prompts, and other assessment activities in your flow of brief learning modules. This will help expand learning on the go, reduce the anxiety that comes with tests, and keep everything bite-sized so your students have a consistent learning experience.

Now that we've covered a few general best practices for microlearning, it's time to talk about onboarding. What are the best ways to slowly incorporate microlearning aims? What about ways to start microlearning from scratch, or apply microlearning initiatives in special circumstances such as remote learning programs? We'll get into that now, starting with a few quick steps that will help you jumpstart microlearning relatively quickly, if you're excited and want to build a microlearning module right away!

What's a relatively quick way to create a microlearning or nanolearning course so my students can experience these benefits sooner, rather than later?

Are you ready to start implementing microlearning or nanolearning into your curriculum, to whatever extent you think would work best for you and your students? Consider these steps to make sure you're able to do so as non-confusingly as possible for everyone concerned (Vojnovski, 2020):

1. **Start by identifying the primary need and parameters of your microlearning or nanolearning course.** For teachers, this may begin relatively easily—as you may have a curriculum to follow or other standards that you know you need to meet.

Refine your teaching or learning “ask,” and think of it as a lesson that can be broken down to its most basic, bare-bones details. In order for you to meet your standards, determine what the key points are that you are hoping to get across? Think about the necessity of any supplementary information: If you present a microlearning course about a specific subject, will you need to be able to point your students toward further information?

2. **Think about the specific needs of your students.** Consider their backgrounds and ages, what you know about any special circumstances they may be experiencing, and any specific idiosyncrasies which may inform the specific ways that is best to reach them. If you already know your students and the particular learning modalities they may bring to the table, consider which types of media may be most effective to reach them. What types of assessments would be helpful? What types of activities do they enjoy doing? Which subjects are going to be easier or more enjoyable for them to grasp, and which are going to take more effort?

3. **Consider the platforms available to you for microlearning.** When implemented in the corporate world for training or extracurricularly for applications such as language learning, microlearning and nanolearning tend to rely heavily on phone applications, SMS, and email. This may or may not be applicable or appropriate in your classroom or with your particular group of students. Will you have to rely on mostly traditional teaching techniques and resources, and simply alter the focus and timing to achieve the benefits of microlearning? Or will your school invest in resources that tend to work specifically well with nano learning? Do you have access to a school Twitter account that you can use to tweet interesting info for your students? Does your main communication platform with your students support a large number of tiny, bite-size modules?

4. **Consider the different types of media you’re able to offer your students.** Come at this from an extremely realistic and practical angle. In this day and age of screen fatigue, it’s key to be very discerning when you pick the videos, podcasts, sections of text, and other types of content that you send to your students. Additionally, you’ll need to think about the parameters in your school or district—or within your remote learning system, if you offer distance learning. For example, there are some schools or remote systems that discourage YouTube videos, or the use of social media during the workday. If you teach in person, are you going to be able to (or want to) play podcasts or videos in the classroom? Are

you going to request that your students peruse this media on their own after school or during breaks? If so, it needs to be extremely safe and accessible.

5. **Think about how to "sell" your learners on the concept of micro or nanolearning.** Because micro and nanolearning can seem like a big pivot from, perhaps, more traditional types of education, it can be easy for learners to discount it as a serious form of education. Additionally, parents, fellow educators, and administrators may have similar concerns as they are becoming more familiar with these strategies. Since this may be the case, it's key to have the science behind effective micro and nano learning strategies at your disposal. (Please see this information in the second section of this course). Then, you'll need to strategize ways to engage your learners with microlearning from the very first module, and design assessments that make it very clear that they will be responsible for retaining the information you are teaching, no matter how quickly the material may be presented.

6. **Have strategies in place to keep your lessons short!** This may feel like an unnecessary reminder, given that the entire focus of micro and nanolearning is the brevity. However, if you're a teacher, you're well aware that planning for short lessons and actually administering them successfully are two different things. Remember, if you're choosing to pursue a microlearning strategy, it's in your students' best interest (on a neuroscientific level) to keep the lessons as brief as you mean them to be. This means that you will have to develop and implement policies and strategies for handling unexpected student questions, spin-off discussions, or anything else that may occur to extend a specific module outside of that magical 10-15 minute window. For example, it may be an effective policy to build in Q&A sessions every third module, or something to that effect.

7. **Make sure that you have a very clear system for keeping your content index easy to reference.** One challenging impact of teaching students using several smaller modules is simple: There are numerous modules to keep track of! If you give your students access to these modules for their own reference, they'll need to have some way to know which module is the most relevant for an assignment or question. Whether you implement a tagging system, you make sure that the content within your modules is easily-searchable, you create some kind of index, or you simply work with media that has this type of reference or index attached, it's key to keep the vast amounts of information as organized and accessible as possible.

8. **Keep your expectations for micro earning realistic.** As we've noted, microlearning may not be the best choice for every learner or every academic subject. If you choose to implement some microlearning practices, it's key to know precisely what your goals are for those modules—and to stick to realistic goals as well as realistic execution. Each microlearning goal should have only a few objectives. It can take some time to transition to microlearning practices, especially if you enjoy lecturing, like to promote stimulating discussions, or if you're used to working with curious students. Although it can be difficult to remain hyper-focused and brief while covering specific topics, don't discount microlearning entirely on the strength of a few frustrating learning curves, particularly in the beginning.

9. **As much as possible, collaborate and curate; don't recreate.** One of the benefits of microlearning can be a reduced workload for the teacher. This will not be the case if you approach microlearning (or micro "teaching," if you will) with a completely DIY attitude. In order to keep your effort levels low (so your energy levels can remain high), see if you can work with your fellow teachers to create banks of microlearning resources, or simply curate pieces of media or text from your student's textbooks that you can leverage for microlearning modules.

Are there ways that I can help my students embrace microlearning without revamping my entire curriculum?

It's easy to get overwhelmed when you first start thinking about introducing micro or nanolearning processes into your curricula. However, it definitely doesn't have to be that stark. Instead of completely overhauling the way that you teach, consider just adding a few of the benefits of microlearning, as it seems both strategic and easy for you to do so (Volz, 2020).

For example, you could use microlearning subtly in any of the following ways (Volz, 2020):

1. **When students are struggling and their grades are sinking, use microlearning as a targeted solution.** Think about it: In many traditional teaching and learning models, when students are falling behind and getting bad grades, they're tasked with completing large amounts of review or remedial work. The strategy behind this is clear: The student obviously needs to re-learn (or remember) the tested information. However, we also know that grades can drop simply because a

student is overwhelmed. In this case, giving the struggling student a lot more work will hardly fix the issue. Instead, it may be a more effective strategy to give the struggling student access to a series of microlearning modules, perhaps short videos you see online or a string of 7-10 minute conversations with you (or whatever might work with that student's preferred learning practices). This is much less intimidating, and may help lower the student's stress level in addition to delivering all of the other benefits of microlearning.

2. **Leverage microlearning to make resources and learning available to your students on a 24/7 basis.** As a teacher, you likely only spend a small amount of time with each of your students during the day and throughout the week. Even if you spend the majority of the schooldays with one set of students, they may not have access to your expertise or attention in the evening, during lunch, on the weekends, or when you're away. By providing microlearning modules to your students, you're giving them access to an easily-understood library of resources that they can watch, listen to, or read in a few minutes of downtime after dinner, during their lunch break, or on the weekends if they're struggling with their homework. This also promotes an attitude of constant learning. If you bring resources to your students, where they are—e.g., short pieces of media consumable on their mobile devices—it'll make it much more likely that they will learn when it is convenient or necessary for them.

3. **Reduce the amount of time you spend grading assignments with microlearning.** As a teacher, you're incredibly busy. In addition to teaching and designing curricula as well as numerous other tasks, you've got to spend time grading papers and overseeing assignments. While it may be difficult or unnecessary to replace all assessments with microlearning modules, it can certainly help to replace some pop quizzes with activities or smaller lessons (or online quizzes or assessment-style games) that offer automatic grading. Some microlearning applications and systems can even send you data over time—for example, a specific student's answering trend, or how long it takes your class to play a particular game.

4. **Introduce personalized learning with micro and nano learning.** Not every student in your class is going to have the same level of aptitude or enthusiasm for every subject. With a variety of microlearning resources at your disposal, you can help students who want to explore deeper have the ability to do so. You can also give students who aren't interested in a current topic the opportunity to delve

into something that's more to their taste after they've completed the essentials for the current subject. With microlearning at your side, you can equip your students to take an initiative in and a responsibility for their own learning—perhaps by allowing students to explore microlearning modules during reading time in class.

5. **Use microlearning to help your students engage with their education outside of class.** If you aren't ready or able to swap out your primary teaching techniques for microlearning modules, no problem. Focus on using microlearning principles for homework or as supplementary study resources, instead. For example, you could assign a microlearning lesson prior to one of your classes, just to assess your students' comfort level with a certain subject. You could offer your students access to microlearning modules during school breaks, as part of summer learning programs, or for any accelerated learning programs your school may offer.

6. **Use microlearning techniques as part of your regular teaching strategies.** In addition to a longer presentation or lengthier discussion, you can use a smaller microlearning lesson to break up a longer class period, provide a natural assessment for your students, or to allow your students to engage with each other. For example, if you have a 50-minute class session, consider incorporating a more traditional 30-minute lecture as well as a 10-minute microlearning module featuring a different form of media or type of activity. Your students will thank you for this—and their brains will actually retain all of the information better!

7. **Whenever your students do small group work, use microlearning to encourage collaboration and keep them on track.** Group projects can be tough for everyone who is involved—students and teachers alike. It's often difficult to balance workloads and match skillsets effectively. With small microlearning activities and group projects that are relatively quick instead of those that span weeks, the pressure is lower—and students develop a range of communication skills more quickly.

As microlearning is a relatively new teaching strategy for K-12 students, there's a significant amount of buzz about it in online communities (e.g., Pinterest, for starters). There can be an overwhelming amount of examples that show some ways to leverage microlearning well. To help reduce confusion, we'll dive into some of our favorite successful microlearning strategies next.

What are some examples of effective microlearning strategies I can use for inspiration in my classroom?

Although the concept is simple—shorter lessons, delivered strategically—it can be difficult to see just how a practical course of tiny microlearning modules might play out in real life. Next, we'll explore how people are using microlearning both in and out of K-12 education. Consider whether any of the following examples of effective microlearning in real life might be worth transforming, modifying, and applying in whichever way you see fit (Greany, 2021):

1. **Present a menu of relevant, focused topics for your learners.** One company created a website with large, linked buttons that each contained a microlearning module surrounding an actionable piece of advice, demo video, or practical tip relating to professional development or new hire onboarding. The developers focused on easy navigation, very organized resources, and attractive titles for each microlearning module that made it very clear to the learner what the microlearning module contained. This worked because it required essentially no introduction: The learner could access the microlearning menu, easily find a subject that was relevant and interesting, and start a short, non-overwhelming lesson within seconds. This enabled the learners to get going with very little time wasted—and presented them with a comprehensive resource to use throughout their training or learning journey. This also reduced stress and helped learners feel less overwhelmed, because they didn't have to worry or wonder about how they'd find the answer to a question later on—it was all clearly laid out in their learning menu. Whether you're able to build some type of similar website within your learning resources or you use an actual, physical "menu" of activities and learning engagements in your classroom, menus are an attractive option. Build a menu of learning activities for your students early on in the year, and make it accessible to them either for the bulk of their learning or for them to keep themselves occupied in down moments during or between class time.

2. **Use microlearning for specific development of needed practical skills.** In virtually every field, there are specific repetitive activities that your students will need to master—whether it's correctly citing a resource in a bibliography, using units accurately in a mathematics problem, or cleaning and organizing their supplies after an art project. Teaching these skills to an entire class may feel tedious, and there are always going to be a few students who may need reminders from time to time. Instead of using your valuable time and energy to teach (and re-teach)

these types of essential but, perhaps, not very interesting activities, create a how-to menu of resources that clarify the steps behind these types of tasks. If your school system allows YouTube as a resource, this should be very easy. Linking these types of short videos in an extremely accessible FAQ-type menu for your students, and then pointing them to this document so that they can feel self-sufficient when they wonder how to complete an activity not only helps them take responsibility for their own projects—it also helps them understand how to recognize and rely upon good information online, a key facet of digital literacy.

3. **Keep your microlearning menus or resources focused on very practical information.** What; why; how. If you give your students a resource—a worksheet, a folder in your learning management system, a set of activities—that includes a resource answering each of these basic questions surrounding your subject, you'll be able to provide a comprehensive and easily-digestible primer on your topic that includes built-in redundancy and practicality. Find or brainstorm a ten-minute media resource or learning activity focusing on what a learner needs to do, memorize, or retain; why that piece of information or process is so important; and how to complete the process (or how the information works in real life). Students are practical people. Easily-digestible content that answers those three questions and does not distract with technically-irrelevant information (like the history of how the process was derived, or adjacent information that should probably be in its own module) will be attractive to students who only want to know what they need to know.

4. **Leverage microlearning to speed up onboarding when you're beginning a school year, ramping up after a break, or introducing a new topic.** It can be hard to level the playing field after time off—for teachers and students alike. In those difficult first few days and weeks, use a microlearning menu to help students get on a similar page—and to provide engaging supplemental resources for students who may have the time and ability to delve further while you help students who may require more assistance get up to speed. You can even use microlearning principles to help students build healthy relationships and behaviors: For example, if you're in need of a way to engage most of your class while you help a struggling student one-on-one, you can give them a microlearning menu that has communication-focused activities so they're still practicing essential skills while your attention is occupied elsewhere.

5. **Consider making your microlearning menus as question-and-answer based as possible.** Draw upon your experience as a teacher (perhaps pooling your memories and experiences with those of your colleagues) to make a bank of the most common questions you get about a subject—for example, the differences between specific species, models of atoms, or styles of music. Brainstorm as widely as you can: What are the types of questions that your students might have tucked in their brains as they study for your exams (or, indeed, are the types of questions you might ask on exams)? Provide your students with this list of questions, and link microlearning resources under each group of questions instead of text-based answers. That way, your students will have a practical indication of which resource they need to examine in order to fill the gaps in their own knowledge. Your goal should be to supply a practical, useful, and succinct answer to the most common questions your students may have.

Can I leverage microlearning effectively for my remote students?

Although it was already a trend in education prior to the COVID-19 pandemic, remote learning began to become much more desirable after the 2020-2021 educational year. As teachers, we need to be prepared to deliver learning strategies that can be flexible enough to move with students through in-person, remote, or even other types of instruction over the years (Bowley, 2020).

Microlearning is an adaptable educational strategy that will be able to deliver on this type of flexibility. However, as varying microlearning content with activities can be more challenging when you're not in the same classroom, it's key to be very thoughtful in how you administer microlearning modules from afar. Here are a few ideas that may make the transition easier (Bowley, 2020):

1. **Instead of in-person activities to demonstrate learning, use challenge-based learning to engage.** Give your students a problem with an interesting scenario-based challenge. Ask them how they would find their way out of this problem—one where the answer would require a basic knowledge of a topic that you've introduced recently—and challenge them to find a good solution through a group discussion in ten minutes or less. If you would like to get multiple microlearning modules out of this type of scenario, give your students a module to discuss, a module to prepare a quick presentation on the answer, and then have one student (or a few) give the presentation to the rest of the class. Having to do these types of quick-thinking and quick-performing activities regularly will help

your students in their later careers, and they will force your students to gain a working familiarity with your subjects in much the same way an in-person activity would.

2. **Take advantage of the fact that your remote student might have a slightly different learning schedule.** Instead of having your students sit in front of a camera for an hour while you give a presentation, give them three ten-minute microlearning modules and ask them to complete them over the course of the day. This is less time overall invested, and the natural spacing and repetition of the information will help the student learn the concept far more effectively than one 45-minute lecture would. This also helps students gain a sense of responsibility for their own education—the freedom to choose when, if not what—that will naturally engage them in their studies.

3. **Use the coaching tools that often come along with microlearning apps and activities.** Especially if you're using a pool of microlearning resources that are already-made (e.g., ones that you find online, or resources that you and your colleagues created together in advance), invest your teaching energies and any extra time you may have to one-on-one coaching instead. Try to see remote education (and the downtime offered by strategically-administered microlearning) as an opportunity to provide students with more personalized attention—not less. While the class is absorbed in a media presentation or a discussion about a situational challenge, use that time to send individual messages to your students, film quick video responses, create dashboards based on the microlearning data you have about each student's performance, or reach out to students' parents if needed.

Let's keep it simple as we close out the course.

What are four key components of microlearning that's effective, efficient, and ready to roll out for my students?

Whether you're interested in going all-in on the microlearning trend or you think you'd just like to offer one or two modules to your students as an optional study aid, it's important to do it right. While we've covered many different ways to use microlearning in your classroom or remote study program, it all boils down to four elements of instructional design that will make microlearning more effective than you could have thought possible. These elements are (Gautam, 2021):

- **Making sure that your content is interactive and engaging.** This will be dependent on the age and specific needs of your students, in your classroom; however, students of all ages will need to engage with their learning, so it's never a bad strategy to vary the content and include strategic, engagement-driven activities. These activities may include gaming elements, simulations, quizzes, and competition. Your goal should be to stimulate curiosity with every activity! With that said, it's important to realize that these activities are parts of microlearning, not breaks between microlearning. They teach students as much as a block of text does, and allow you to assess their performance in powerful ways. It's important to realize that these activities are parts of microlearning, not breaks between microlearning. They teach students as much as a block of text does, and allow teachers to assess their performance in powerful ways.

- **Using real-life examples to make your teaching relevant and vivid.** One way to help students integrate and remember concepts well is to enable them to relate to the content as quickly as you can. Nothing accomplishes the mission of building a relationship between your student and your content more quickly than real-life examples. Give your students a reason to care—whether it's relating a scientific concept to the weather they experience, a social studies example to something that their ancestors went through, or an art concept to a structure that exists in your school. Draw the connecting lines for them, and they'll hold on to the information much more easily.

- **Offering your students flexibility with your microlearning resources.** One of the benefits of the microlearning philosophy is that, to some extent, students can take these courses anywhere, at any time. If you teach a room of students on-site, you may not have that level of flexibility; however, students should be able to have some degree of choice regarding their education to promote an essential sense of engagement. At the very least, the resources you offer should be freely and easily available for flexible, accessible review and study even (or especially) when a student is not in your classroom. One practical endpoint to work toward in this arena? Make sure that your resources are easily available on multiple types of devices, including handheld and mobile devices. Bring your resources to the place your students will most likely use them!

- **Use microlearning strategically.** There's a good chance that, no matter how excited you may be about microlearning, you won't be able to use microlearning modules for everything. Microlearning will likely be best used as a part of your

larger teaching strategy. Whether you decide to use microlearning primarily as a learning reinforcement tool, as a resource for students while they study, or as an option for students to peruse after they've completed the required coursework of the day, make sure that you fit it strategically into the rest of the educational activities and support that you offer—not necessarily as a replacement for other vital components you use to promote your students' growth.

Section 3 Reflection Questions

- Think about the current ways that you teach. Is there anything that you do that you know is longer than it needs to be—or that could reasonably be swapped out with a shorter activity?
- Do you have resources available for your students that are easily-accessible across a variety of platforms?
- Do you think that other teachers at your school would be interested in working together to create a pool of microlearning resources? Why or why not?

Section 3 Key Points

- If you think about it, your learners are already far more familiar with many of the processes that microlearning encompasses than you are, as they already use them for engaging, entertaining, and connecting with their peers. This means that you already have the tools to implement microlearning for your young students—you just have to start strategically.
- There are many ways to start microlearning with your current curricula in place. For example, you can use microlearning as a review system, or for teaching specific recurring, practical tasks to your students.
- If you're able to do so, it's always easier to implement microlearning systems if you can do so with a few of your fellow teachers by your side! That will allow you to spend more time implementing, instead of recreating, strategies that may already be in place elsewhere.

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Course Summary and Conclusion

Although microlearning strategies might seem unfamiliar and may take some time to embrace, the fact that its methods are based on scientific principles will hopefully lend credence to its possibilities. By harnessing the specific way our brains process and retain information through microlearning, we can choose to work less and learn more! If this sounds too good to be true, it's also key to remember that microlearning is not necessarily simple; there's a great deal of strategy that goes into keeping leesons brief but effective. Regardless, as long as our attention spans remain short, it seems like microlearning is here to stay as a viable learning strategy. Consider adding microlearning in some way to your educational framework, and see how your students benefit!

Resources

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Introduction

One of the fascinating things which can set humans apart from animals is our ability to change. In some cases, we can do even more than simply change. We can also be happy and successful as a result of a series of these changes. However, this can create tension. After all, change is scary. However, it underlies many of our most frequently pursued goals. To become healthier, smarter, more successful, and happier, we often must undergo change.

Part of effective teaching is helping young people learn to embrace the benefits of change, and learning how to pursue a considered change in a forward-thinking, beneficial direction. This type of change is more commonly known as growth. Prioritizing growth in the classroom is sometimes known as **growth mindset-oriented learning**, and it can be a very effective way to teach. However, this is only the case if it is implemented successfully.

In this course, we'll discuss the meaning of growth mindset-oriented learning, what benefits it can lend to teachers and students alike, and how to help an academic community embrace it to its fullest extent.

Case Studies

Case Study 1

In one Finnish elementary school, a group of investigators decided to follow the growth of a group of students as their teacher implemented a growth mindset pedagogy. This teacher decided to start practices in her classroom which helped the kids to calm down, focus on their subject, and become more oriented towards persistence and mastery instead of more binary markers of achievement. To do this, she made their classroom activities much more engaging, focused less on praising her children on their innate features and talents, and instituted a system of support for each individual student in her classroom. She also proactively educated her students on the differences between a fixed mindset and a growth mindset, emphasizing the benefits of the latter while being realistic about the difficulties often encountered in developing one. As the semester—and the study—reached its conclusion, the Finnish researchers were happy to find that the students had enjoyed their semester, that the average test scores of the students were actually higher, and that even the teacher deemed the experiment a resounding success—even as she acknowledged that it had been a learning curve, and the

implementation of a growth mindset for her students had required significant hard work.

Case Study 2

Another study followed a group of elementary school math teachers and their students over the course of an academic year. At this suburban elementary school in the northeast USA, the researchers collected data at different points of the year by conducting interviews with academic personnel as well as students. The students were in grades three to five. At the end of the study, the researchers were granted access to the de-identified course and achievement data, as well. The teachers were asked to implement growth-mindset oriented learning strategies, such as reframing praise, helping their students to embrace mistakes, proactively helping students develop grit and confidence, and allowing open-ended projects to cultivate curiosity in the classroom. During the study, the participating teachers (and even some self-aware students) noticed an increase in the confidence of students in the study. It was theorized that these types of growth mindset strategies could even help students overcome mathematics anxiety, which was an important goal for these mathematics teachers to overcome. At the end of the year, the students had better grades, but more importantly, they were enjoying their classes, and the subject matter, much more.

Lessons Learned from Case Studies

Cultivating a growth mindset in your classroom can take a lot of effort. In order to do so, you effectively must help your students learn to love challenges and work persistently through obstacles. Some students may have a lot of inertia to doing just that! However, by investing in exciting, engaging learning opportunities, by helping your students make and work towards goals that matter to them, by embracing curiosity and change, and even just by shifting the way you think about feedback, you can make it much easier for your students to learn productively. This, in turn, can make your challenges as an educator shift slightly. However, these processes can also result in students who are better equipped to take on the difficulties of learning your subject matter as well as students who are more capable of growing to become the people they need to be.

In this course, we'll go over what precisely constitutes a growth-oriented mindset, as well as the specific benefits of adopting one as an individual. We'll also discuss the ways to implement one in your classroom. Finally, we'll delve into strategies for effectively helping both students and teachers cultivate a growth-oriented mindset in themselves.

Section 1: The Benefits Of a Growth-Oriented Mindset

Having a growth-oriented mindset has been shown to be excellent for students, and is arguably one of the hottest current trends in K-12 education. In order to increase the number of students with growth mindsets in classrooms worldwide, teachers are learning to implement strategic types of growth mindset oriented language and activities in their instructional paradigms.

We'll start with the basics. What is a growth-oriented mindset? How do you cultivate one, and how is it different from other teaching strategies currently trending?

What is a growth-oriented mindset?

Simply put, a growth-oriented mindset is one which espouses the idea that intelligence is developed over time, instead of being set in stone. One study launched the term from a relatively unknown psychological paradigm into a household name—certainly in teaching households.

The study, which came out of Columbia University, tested the effect of praise upon elementary school students. After completing a puzzle, a test, or a problem-solving game, each student was told they'd answered 80% of the questions correctly. After this, they were praised. The praise cited either how hard the student worked on the task in question or the student's natural ability and intelligence. Afterward, the study continued to document what the students behaved as a result of this tailored praise.

The study went on to publish several main findings. Ultimately, students who were praised for their innate intelligence began to think of themselves as being smart, without too much effort. These students went on to choose easy future tasks so that they would continue looking intelligent. They were less likely to enjoy projects, less likely to persevere through difficult tasks, and ultimately did not fare nearly as well as their peers who received different praise.

The students who were praised for their effort and hard work perhaps paradoxically enjoyed their work, tended to look for harder projects so they could continue to grow, exhibited increased perseverance through hardship, and generally went on to show higher rates of success.

To simplify the findings even further: The first group of students was taught with a fixed-mindset mentality, and the second group, a growth-mindset oriented one. The results speak for themselves: For student success and even happiness, a growth-minded

orientation and accompanying critical feedback is far superior to praising students for their intelligence.

What does this study mean for providing feedback in the classroom?

It's common for teachers and parents to deliver feedback with absolutes such as 'wow, you're so smart', or 'clever', or 'talented' as the case may be. This feedback is easy to give and makes the recipient of the feedback - the student - feel very good. At the time, it feels like a win-win. However, there is at least one issue with this superficial form of feedback. It does not tell the child what is necessary for him/her to succeed in subsequent tasks.

By tailoring feedback to praise the hard work completed and the specific strategies used to obtain success, we reinforce the efforts which will result in success time and time again.

This also shows the drawbacks of labeling children (privately or publicly) as gifted or intelligent. Doing so teaches them to rely on innate abilities for success, instead of striving to improve.

What are the benefits of implementing a growth mindset-oriented learning strategy?

While there are obvious benefits of having a growth mindset-oriented learning strategy for yourself and for your students, it's also possible that having a growth mindset as a teacher can help make education in your classroom more engaging and interactive. A growth mindset as a teacher can help you be more adaptable when class discussions go awry, or if your class needs to segue into learning about something that wasn't necessarily in your curriculum.

Aside from modeling the effects of embracing challenges and leaning into directional hard work, you can also use a growth mindset in your classroom to help children literally expand their mindset—and their worldview. Teach your students to debate politely, teach them to appreciate ideas and opinions that are not their own, even if they do not necessarily understand them, and teach them to ask questions in order to grow. These are all activities that benefit from and can expand a growth mindset in your students.

If you're constantly working with your students to implement a growth-minded strategy in your classroom, your teaching style will automatically become more inclusive and interactive.

Wondering exactly how to do this? We will discuss specific strategies for implementing a growth mindset oriented learning strategy in your classroom in the next section.

Are there any downsides to implementing a growth mindset-oriented learning strategy? What about the benefits of having a fixed mindset-oriented learning strategy?

The benefits of having a growth mindset seem rather overwhelming: increased happiness increased chances of success, and increased ability to learn from challenges and failures.

However, we've also come to realize that every student is different. There are many different ways to learn, each supporting several different learning proclivities. Are there any students for which a fixed learning mindset is better than a growth mindset-oriented one?

Ultimately, you will have to make that call for you and your students, as you know their personalities best. Here, we will talk about potential benefits that may come only with a fixed-mindset learning orientation.

Sometimes, there are specific tasks and personalities for which a growth-oriented mindset may be overly complicated. For example, for certain types of administrative tasks, or for students who have anxiety and need lots of guidelines and boundaries, a fixed-mindset approach to learning may initially feel protective. In this case, all efforts should be made to meet the student where he or she is and proceed to help the student grow from there.

Additionally, it's often found that there are misconceptions as to what a growth mindset is. The same researcher who invented the growth mindset framework wrote again, years later, to note that many people had misinterpreted her findings. According to her updated thoughts, there were three common misinterpretations that she wanted to correct.

- A growth mindset is not the same thing as simply having a positive attitude. Merely being Pollyanna-ish about every event that comes your way—or anything that stresses your students—is not going to help anyone grow. Nor, on the other hand, will teaching your students to have a saccharine facade in place in the event of any challenges.
- Often, people assume that the difference between a growth mindset and a fixed one comes down simply to how an individual is praised. This is not the case. There is a lot

of careful internal work that must happen in order for a growth mindset to appear in a student. In very young children, excess praise for their inherent talents may plant the seeds for a fixed mindset, but cultivating a growth mindset **is about more than just praise.**

- Similarly, you can tell yourself and others that you have a growth mindset; you can tell people that you teach your students with a growth-mindset oriented learning strategy. However, none of this is helpful unless you do the hard work to implement a growth mindset. It's not something that can be merely said or quickly thought. It involves reprogramming your brain to appreciate challenges and see critical feedback as opportunities—certainly not something which will happen overnight.

There are also a few directly harmful things that can arise from trumpeting the benefits of a growth mindset too loudly, particularly if the growth mindset in question is not strategically implemented.

For starters, there's an easily-seen misconception that a growth mindset can be equated with effort. A growth mindset, after all, places primary emphasis on the idea that through hard work, a student can learn to do anything or overcome any challenge.

Unfortunately, when taken at face value, this isn't absolutely true. There are some challenges that cannot be overcome. A little less pessimistically, there are some challenges that require careful thought and strategy from those who seek to fight them. In other words, sometimes it isn't strictly effort which equals victory. A famous quote attributed to Einstein states that trying something over and over again, expecting different results, will result in insanity. If you allow your students to believe that simple hard work will get them what they need without giving them tools and guidance to get where they need to be, there stands a chance that your student might work very hard, spinning his wheels, and be ultimately ineffective. Worse, he might get overtired and burn out from trying to overwork his way to a goal.

Another way of saying this? Hard work and effort are certainly necessary for growth and success, but they are not necessarily sufficient. This does not mean that a growth mindset is not a good or universally achievable thing. It does mean that you need to be careful about how you talk about it and implement it in your classroom, so your students don't believe that mindless effort will result in success.

It's also easy to see growth and fixed mindsets as binary opposites. In reality, most of us exist somewhere on the spectrum between fixed and growth mindsets and therefore will need accommodations, to some extent, for both.

Using learning journals or exit ticket systems to help learn how your students are learning—and how they appreciate their learning processes—can enable you to be there for them in the way that they need your help. Meeting your students where they are on the growth mindset spectrum is crucial. A frustrated or desperate student is going to have a very hard time learning anything at all!

What are the differences between a growth-oriented mindset and a fixed mindset in the classroom?

There are several different ways that we can spot fixed-vs-growth mindsets, particularly in the classroom. However, you do have to be looking for them, because many of the fixed-mindset staples in modern classrooms are activities and standards we have had for centuries. We are so accustomed to them that they are almost innate!

The primary differences between a fixed mindset and a growth mindset lie in your students' behavior and mannerisms. When you're looking for the mindset with which your students are most comfortable, look for the following tells:

With a fixed mindset:

- Your students will naturally have a goal to look smart. This is not necessarily opposed to being smart, but they will be very concerned with the optics of their intelligence, especially in front of their peers.
- They will avoid challenges because they are more comfortable in situations where they believe that they will likely look smart. Challenges literally challenge that proclivity.
- They give up easily. If a victory is not immediately in sight, students with a fixed mindset will abandon interest and pursue an easier goal.
- They do not see the point of effort. Because their goal is visible and an easily-obtained accomplishment, students with a fixed mindset will not naturally be interested in expending hard work on a goal—especially if something easy is presented as an alternative option.
- They ignore feedback. Because their talents have been presented to them as innate, they do not focus on their ability to improve—and so hear feedback as an attack, or as being worthless.

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- They feel threatened by others' success. Achievements are necessary for students with a fixed mindset, and it's easy to feel that success is a zero-sum game. The success of others, therefore, makes students with a fixed mindset feel less secure in their own accomplishments.

With a fixed mindset, students will have a hard time adapting to any and all unforeseen circumstances. This will make it very difficult for them to learn and grow. As becoming a better version of themselves will always require change, a school will have difficulty guiding these students along the path to betterment if they consider themselves fixed and immutable.

Fortunately, all science points to these children being able to change their mindsets. (After all, the entire concept of cultivating a growth mindset is predicated upon change!) A growth mindset extends to the ability to change from a fixed mindset to a growth mindset—although it will not be without difficulty.

The benefits, however, will likely be worth it. When observing students who have a growth mindset, you may notice that:

Students with a growth mindset place more of an emphasis on the goal of learning, rather than the goal of succeeding. They'd rather be able to explain and understand the ins and outs of a complicated process, instead of simply being able to place a check next to that assignment on their to-do list or report card.

- These students embrace challenges. Difficulty does often present discomfort; however, students who have a growth mindset are innately aware of the fact that it's this precise discomfort which prompts growth and ultimate mastery. Because of this, they welcome challenges and the hardship of working through them.

- Students who have a growth mindset persist through setbacks. Where a student with a fixed mindset may see a setback as a catastrophic failure, a student who knows that growth is possible and good sees setbacks as challenges to be overcome. These students also tend to be far more optimistic in the face of setbacks than are their peers.

- Growth-mindset oriented students tend to see all effort expended as putting them closer to the path of mastery. No effort once spent is useless; it helps people grow, and it helps them achieve something—even if the only thing achieved is progress. Students with a fixed mindset tend to need a visible or public achievement to commemorate any effort spent, or they believe the effort is wasted.

- Students who have the benefit of a growth mindset will be able to learn well from feedback. They see feedback not as an attack on their work or who they are as a person, but more an opportunity for them to be able to improve their work in the future.
- Finally, students who work with a growth mindset are generally able to find inspiration when others have success. Instead of seeing achievement as a zero-sum game, as students with more fixed-mindset mentalities might, students with a growth mindset are able to rejoice for others and then continue on in their own work.

As you can see, there are many positive attributes of being a student with a growth-oriented mindset! It can also be much easier as a teacher to be working with students who are inclined to value feedback and who work hard without constant accolades. However, this transformation does not happen overnight. As teachers, we must work to employ effective feedback and strategic activities to help students thrive with a growth-oriented mindset.

Ultimately, why is it important to cultivate a growth mindset-oriented learning culture in your classroom, as opposed to any other educational strategy which might work for you and your students?

Having a growth mindset-oriented culture in your classroom is about far more than just the grades or the next few weeks of accomplishments. It's about creating a culture that will allow your students to grow into the best versions of themselves—and do so far after they've graduated from your classroom.

Even if it's extra work to prioritize growth mindset-oriented strategies, keep in mind that you're helping invest in your students' future by influencing the way they learn and the way they grow—instead of just helping them understand the finer details of a specific academic subject. Because a school is tasked with the protection, education, and growth with each student, it's expected that each student learns how to be a good, productive citizen. An atmosphere of growth will go a long way toward making this happen.

Summary

Instilling a growth mindset in your students can have many benefits, including helping your students become more independent and excited about their learning journeys. With a growth mindset, your students will be more interested in completing challenges as they occur and growing from them, instead of avoiding hardship at all costs. Ultimately, a growth mindset will lead to more curiosity, productivity, and even success

and happiness. However, there is a lot of hard work that you need to put in to get your students to that place. In the next section, we'll go a little bit more into specific strategies to make that happen.

Section 2: Implementing A Growth Mindset-Oriented Learning Strategy

We've talked about the various benefits and downsides of investing in more effective and strategic feedback for your students, and we've delved a little bit into the theories underlying why this different type of feedback and mentality is so beneficial for students and teachers alike. However, the theory is only helpful if it's followed by practicalities.

In this next part, we'll discuss various strategies for helping your students develop a growth mindset, as well as ways to do the same for yourself.

What are some practical strategies for implementing a growth mindset-oriented learning strategy?

To pare the strategy down to its extreme essentials, the first step often concerns learning to rephrase feedback and change the conversation around and perception of success. Let's start with several different ways to inspire your students to think about growth and effort instead of innate talent.

1. Instead of praising innate talent, praise the value of hard work and effort. This strategy comes directly from the work out of Columbia University mentioned in the first section. If you'd like your students to be happier, more productive and persistent, and ultimately more successful, this is the first and easiest change you can make. All praise given should be centered on the journey that the child is taking to learn, instead of making that child feel special. (There are other times and methods for doing the latter, but separating that from education is key).

   All attempts should be made to avoid praising a child for who he or she is, in favor of what he or she has done. This includes doling out positive feedback for occasions which might not have inspired praise in the past. If a child has struggled with even an objectively easy math problem for a very long time, once that child reaches a modicum of success (including an incorrect or partially correct answer), that child needs to be praised for working on it for so long, with such perseverance. Any critical feedback should be paired with strategic praise. This helps the student learn that hard

work and effort are the ways to obtain success and that it's not necessarily a built-in attribute.

This may seem like tough love or an overly semantic distinction. However, it can be extremely inspirational. By focusing on eminently attainable activities pointing to success, you can help lay the groundwork for your students to believe that with enough effort and hard work, any of them can do anything — not just those who are considered to be particularly gifted, intelligent, or precocious.

2. Harness the power of the word 'yet'. One word, three letters: it doesn't seem like it would make that much of a difference, but it does. It's a hard fact of life that sometimes in education mastery of one step is required before moving on to the next; and sometimes, some children will move past basic steps more quickly and be ready to tackle more advanced ones. When you're a child, even subtle differences in achievements go a long way and can seem like monumental gaps in perceived status. Teachers need to be honest with themselves and their students and make sure that they're not pushing anyone to go faster or further than they're able. However, teachers also need to be able to communicate to students who may not be progressing as quickly as others in their class that they are not innately less intelligent than their peers (which is an assumption often problematically drawn by students, their peers, or their parents).

   One way to do this successfully is to approach a student who is experiencing difficulties with the word 'yet.' After praising them for their effort instead of their accomplishments, informing the child that he or she might not be ready for the next step 'yet' instead of 'never' leaves the door to future progress wide open. This simple word swap can alleviate a sense of failure which might otherwise fall over children and can help them believe that learning is an ongoing process. By noting their hard work and telling them that they aren't yet ready for the next step, you're telling them that if they continue to work hard, they will be ready eventually.

3. Encourage your students to speak to themselves positively. Nothing good can come from children learning to speak down to themselves! Keeping all dialogue positive even through challenges will not only help your students achieve a growth mindset for academics but can give them a more optimistic and positive outlook outside of your classroom.

   Teachers can model this positive self-talk for students by prioritizing the use of encouraging words in the classroom. For example, positive feedback that emphasizes

the benefits of being persistent, confident, and capable—regardless of metrics and performance—will teach a student that that is what he or she should be thinking as well.

A teacher can contribute to this effort by reading or assigning books that demonstrate the value of persistence and positivity in achieving dreams. For example, selecting and sharing literature that follows a protagonist continuing to face conflicts and obstacles will make those heroic traits, instead of genetic abilities or simple luck.

4. Utilize the principles of shared learning to help make achievements communal ones instead of isolating ones. When you use shared learning experiences, you give your students the opportunity to experience working together. This allows each student to observe many different approaches to problem-solving, and it also makes the success of one student much less ostracizing and shaming to other children.

   Shared learning can also cement the belief in young minds that many minds are better than one. Shared learning can also help children understand the value of being a good listener, as well as the concepts of sharing and effective collaboration. Helping young students hone their social skills in this manner will go a long way in the future! These types of cooperative activities will help students learn to focus on others as well as themselves and encourage a sense of productive responsibility toward their team (instead of an abstract idea) to do the very best they can.

5. As much as is possible, work to allow your students to figure out what works for them, instead of telling them how to complete an activity or solve a problem. As teachers, it's often our goal to simplify procedures for students and help them out where we believe they may be having difficulties. We should absolutely be there to assist when necessary; that's part of the job! However, jumping in and telling the student what to do may do more harm than it does good. Instead of rushing to rescue a student from a stressful or difficult situation, helping inspire a growth mindset may look like letting that student struggle for a time. In doing so, you may allow that student to discover a way to solve the problem himself or herself, which will be far more satisfying than being told the answer. As a teacher, you can use praise to hint or encourage the student to attempt a wide variety of different approaches which may lead to the solution of a problem.

   On a cognitive level, this helps the student be aware that new experiences and struggles don't have to be a bad thing. It also puts them in charge of their learning experience, which is a responsibility that will only increase as the student matures.

6. Embrace variety in your teaching strategies. Switching up your instructional methods from time to time is a good idea for many reasons, but for the purposes of growth mindset-oriented learning, doing so can help students understand that there are many different ways to demonstrate and process knowledge.

   This can help give your students multiple ways to approach obstacles or problems in the future, which will make them more resilient and adaptable. It will also help them learn about a broad spectrum of topics, as certain learning and teaching styles lend themselves best to specific subject matters.

7. Think about creating 'success folders' for each of your students. A success folder is a simple place, physical or digital, where students and teachers alike can add examples of situations in which they were able to learn successfully that week. While the idea for a success folder might have to come from the teacher, it's important that a student feel involved in filling it with experiences. It might be helpful, for example, to let the student decorate the folder (or box, or poster) as he or she likes, to encourage him or her to be excited about using it.

   Examples of items to place in the success folders for each student might include completed tasks (or pictures or evidence thereof), tests, or assignments that represented lots of effort or a breakthrough. (Note that this does not necessarily mean that it's important that these be objectively high-scoring artifacts.) When the student is having a difficult time, later on, having a success folder to refer back to may make a huge difference in how they are able to move forward through their struggles.

These practical strategies to help your students cultivate a growth mindset may not work for everyone, but they're a good start! We'll go into specific strategies to help anyone who needs individual help in a later section. For now, know that all of the extra hard work you put into assisting your students with their growth mindsets will be worth it!

Working with Exit Tickets

Another strategy that might work well to help your students concentrate on their growth is that of exit tickets. With exit tickets, you create a short questionnaire after each lesson, set aside the last few minutes of a lesson to allow your students to answer it, and collect the questionnaires as your students are leaving the classroom.

This will not only help you reflect on where the lesson is likely to take your students but also help you to encourage each of your students to reflect on the lesson as it pertains to his or her overall learning journey.

Questions to include on your exit tickets may focus upon:

1. A retrospective of knowledge then versus knowledge now. In an exit ticket, you could simply ask a student to describe what he thought was the case about your subject or the topic of the lesson at hand earlier, and what he knows now.

2. Asking your students to practice visualization or comprehension skills. This helps you gauge how your students are absorbing information with a simple prompt—and also gives your students a different way to display knowledge.

3. Asking your students to identify a problem that they had. If having a growth mindset depends upon having effective strategies for surmounting issues (and appreciating the effort that went into that journey), an easy way to start is with problem recognition. The question on the exit ticket could simply be to request that your students relate a story about a time they struggled in your classroom.

4. Application in real life: To help your students grow beyond the classroom, it might be good to ask them how they plan on applying the information in your class to real life. Even if you have a more abstract discipline, it will be a good test of their outside-of-the-box thinking and creative skills to come up with an application or two! This can also help your students see the value in their education.

Implementing exit tickets may take some effort on your part and require a few minutes at the end of class to be devoted to this practice. However, these few minutes can act as a very nice framing device for your lesson, and the practice can even allow you to get very practical information about where specific students are in their learning journey. If you're interested, you can even leave some anonymous to allow students to feel even freer to speak their minds. Ultimately, exit tickets can be a good way to help your students process their thoughts—while at the same time, learning how you can better help them grow.

Simple Gamification Techniques

If you think about it, there's already a system in place for teaching children the value of persistence. We've all seen children who do not apply themselves at school practice for hours on the pitcher's mound, or in front of an Xbox or on an online game. The same principles which make progress and mastery fun and (beneficially) addictive in those settings can be used to help children learn to appreciate challenges in the classroom.

You can take advantage of this by introducing gamification elements in your activities, classroom environments, and assignments. One simple mindset shift that can enable this is the simple practice of highlighting student progress, instead of emphasizing their mistakes.

Turning regular learning processes into games can also save you from having to figure out how to give forms of feedback that do not constitute praise, as that can be construed as detrimental to a growth mindset.

Some simple ways to include gamification techniques in your classroom may include:

- Instead of marking tests and assignments with letter grades or percentages, you can consider giving students scores in the form of experience points, or XP, a statistic very familiar to those who game in their spare time. (Of course, for records, a certain amount of XP can correlate to a letter grade, or you can always award both.) XP can also be awarded for participating in class, competing activities, or for a number of other events occurring within a routine school day. You can keep track of each student's XP levels in a chart or graph displayed on a classroom wall, which will give your students a reference point as to how much they have accomplished.
- Instead of assigning your class worksheets, presentations, or projects, assign them 'quests,' give them maps and tools, and the freedom to go whichever way they choose.
- A simple way to invest in gamification is simply by playing games. Jeopardy and other quiz-show games lend themselves easily to a classroom trivia format and can be used (for example) to help your class study for a test.
- Allow your students to pool XP in order to earn a class field trip or other educational (but fun and exciting!) activity. An additional benefit of this approach will be that your students will learn that working together can catapult them to success–and internalize the idea that one person's success is a success for the entire team.
- Whenever you're teaching or emphasizing a subject that you know your students do not prefer, you can strategically pair that subject with tasks or activities that you know your students find more pleasing—such as more game-based learning strategies, or something more experiential.

Gamification is not a new concept in classroom strategies, but if its paired with the concept of a growth mindset it can present intuitive ways for your students to learn the value of challenges and growth. Consider investing in one or a few of these methods,

particularly if you believe your students would appreciate an element of fun or adventure in your classroom.

Encouraging Children to Expand Upon Their Answers

One simple way you can ascertain how well your growth mindset oriented strategy is going is by asking your students to expand upon their answers whenever possible. This will have the effect of showing you just how well they actually know their subject; after all, memorizing flashcards is one thing, and being able to answer spontaneous questions and talk through their answers is another.

This demonstrates a growth mindset because it shows students that expertise is not inherent—or memorized; it's something that's worked through over a long period of time. It will also help your students learn to process the content related to your subject at a deeper level.

Specific ways to help your students expand upon their thinking and rhetorical processes may include:

- **Problem-Based Learning Activities:** For this type of community learning event, put your students into groups (large or small, as dictated by the size of your class). Have them talk through the answer to a question together, with one student building off another student's ideas in turn. This will teach your students the value of collaboration. It can also show students who may struggle with logical thinking or the creative process that no one jumps to the correct answer immediately; everyone has to work to get to their destination. This clarity may prove invaluable.
- **Question and Answer Sessions:** After a presentation, whether it be something you speak on or a discussion hosted by an invited speaker, make it very clear that you expect your students to ask questions at the end. (Perhaps incentivize this goal by offering XP to students who participate!) This will provide a reason other than the virtue of learning for each student to listen closely to the talk. Let your students know that there are no 'dumb' questions, and prepare them to supply the reason why or curiosity behind their question, as well. To do this, you could teach your students to ask their questions in the "I don't understand; therefore, why" framework.

When you are searching for ways to make a growth-oriented mindset not only attainable but instinctive for your students, in the beginning, you need to provide a framework that allows them to get to that end all by themselves. Making growth-oriented learning fun and as pain-free as possible is a great way to do so; allowing your students to

collaborate, express real curiosity, and follow-up on what interests them will help solidify these practices.

Explaining the Purposes of Abstract Concepts

If you teach a subject that is full of nuanced or abstract skills or concepts, it might be difficult to get your students excited about something which may seem more removed from them than other, more concrete subjects. This is a natural effect of studying more esoteric academic concepts. The solution is simple: If you take the time - perhaps in one dedicated class session, perhaps in a few minutes at the end of every class session - to help your students understand what the real-world application of your subject is, your students will naturally be much more interested in learning that subject.

This is due to an innate efficiency and practicality that's built into most of our brains. Why learn it, our subconscious argues, if there's no practical point? Particularly when you're trying to instill a growth mindset in your students, it can be difficult to inspire them to do the hard work of learning something that does not seem pertinent or useful for their specific goals.

Here are a few ideas to keep in mind when you're explaining the real-world applications of a concept to help your students see the value of improved knowledge in that arena:

- You'll want to explain why the information you want them to know is significant. Why is it different than other pieces of information? What did it mean when the event first happened, or when the data was discovered? What makes it important relative to other parts of your field?

- You'll want to explain what its uses are outside of the classroom. For example, you can mention that certain types of hard-to-learn math and physics are necessary for bridges standing firm and airplanes staying up. You can talk about the ramifications of long-ago history stories and how they're playing out today. You'll just want to connect the dots between what you want your students to learn and their daily experiences. In other words: give them the answer to the question "Why should I care?"

- Finally, you'll want to simply let your students know how it will help them in the future. This can be as easy and practical as telling your students that "you'll have to know this if you ever want to be an astronaut," or the justification can be as detailed as you wish. To help justify hard work within your student's growth mindset, you just need to point them towards future value.

If you're able to do these three things, you'll be able to help your students become more interested in a concept that will no longer be quite so abstract. Because your students will now understand that there is a deeper level of the practical application behind theoretical knowledge, they should also be more intrigued with learning concepts more deeply in general. This can work synergistically with an already-established growth mindset, and it can also be used to jumpstart the beginnings of one as well.

Goal-Based Journaling in the Classroom

Another tool that can be used effectively to help your students become more comfortable with their growth-oriented mindset is simply to employ goal-based journaling in the classroom. This can be the time you set aside while in class, and a good activity for each student individually if they find they have extra time after completing an assignment in class or even an assignment that you ask them to work on in their own time after school.

As part of goal-based journaling, you should ask your students to come up with goals they wish to work toward. You can assist them with this selection process, or the student can propose goals of their own which they are excited to pursue. In their journaling time, they should come up with steps to help them accomplish their goals as well as detail the successes and challenges they have had thus far.

At regular intervals, you should meet with your students and ask to review their journals or ask them to tell you how they believe progress towards their goals is going. At this point, you can help them manage realistic goals or propose ways to help them get to where they want to go. This will help your students see their own growth in action. The act of setting goals, strategizing towards their accomplishment, and documenting the hard work it takes to make those goals happen will go a long way toward establishing a growth mindset in your students. The actual goals your students accomplish will be nice perks as well!

As you're helping your students work towards their goals, you should help them choose SMART goals—or goals which meet the following criteria:

- Specific
- Measurable
- Attainable and Agreed-Upon
- Realistic

- Time-Based

Making sure your students' goals meet these criteria will assist them with the completion of these goals. Meeting these criteria will also ensure that all selected goals are practical enough to be appropriate for school applications. It will also help ensure that your students have goals that are attainable—which, in turn, will help your students consistently meet their goals.

When your students consistently meet their goals, they learn the incredibly valuable lesson that growth is always possible—an inescapable part of having a functioning growth mindset.

Summary

Cultivating a growth mindset in a group setting can be difficult, as a lot of the specific habits which go into a growth mindset are necessarily more individual ones. However, by focusing on engaging lesson structures and guiding your students to more value-based habits, you can start to guide your entire class in the right direction. Some of these activities may require more work on your part, but they will result in a more varied, exciting classroom experience for everyone involved.

Sometimes, you'll have students or other individuals (yourself included) who might need a little more assistance realizing the benefits of a growth mindset. To address these situations, we're going to spend the final section of this course going over ways to help both students and teachers grow as individuals so that everyone can succeed.

Section 3: Encouraging Growth in Students and Teachers

Once you've seen the benefits of a growth mindset, it's hard not to get excited about helping your students cultivate their own! However, it's important to realize that fundamentally shifting the way that you and your students see the world and experience challenges will take time—and it'll take time for your students to see this as well to implement it.

In this section, we're going to go into ways that you can teach a growth mindset with your actions as well as your words. We'll also go into ways to support both your students and, perhaps, colleagues, as they work toward a growth mindset. We'll finish by

discussing a few troubleshooting methods to help you understand the ramifications of a fixed mindset in your own mind—and how to get you to where you want to be.

Modeling Growth as an Educator

It's difficult to expect that your students will exhibit a superior growth mindset on their own, especially if you and your colleagues are not displaying them yourselves. This is an avenue in which showing the students how growth is achieved is as important as simply informing them of the benefits of the process!

In this section, we'll discuss how best to pursue growth on your own, as a teacher—and then how to ensure that your students see you modeling it effectively so that they will be excited to pursue it as well.

1. Admit it when you make a mistake. You will have to use your best judgment to determine when and if this is appropriate, of course, as admitting that you make mistakes can have the unintended effect of weakening students' trust in you. However, if deployed correctly, an admission of failure can inspire respect as well as trust.

   More importantly, admitting that you made a mistake and walking through the steps that you have taken to correct it with your students shows them that failure is not permanent and that there is a good way to handle even seemingly cataclysmic problems. Decide to use small mistakes you make (for example, failing to reserve a common space for an activity or an incorrectly formatted slide in a presentation) as teachable moments. Detail the way you felt when you realized you had made a mistake, discuss how you realized the choices you had at that moment, and tell your students what you did to correct it.

   There's a very good chance that the students in your class will find this relatable. It may even inspire them to be more proactive about their own problems in the future.

2. Show that you are learning new things. As a teacher, if you're taking continuing education classes, a very simple way to show your students the benefits of what you have learned is simply to employ a new teaching technique or exhibit mastery of a device that you hadn't been able to use prior to learning more about it. It's likely a good idea to spell out the fact that you took the time to learn more! Children tend to see themselves as constantly evolving, yet they see adults or people in authority as permanent and unchanging. Doing your part to dispel this notion will help them see their futures and themselves with more flexibility.

If you aren't attending continuing education courses specific to your teaching career, taking even a few moments to educate yourself on a topic you find interesting that is completely perpendicular to what you do for a living is good for you—and modeling this can be good for your students. Even an occasional offhand comment about the fact that you're learning how to kayak or learning a new language—even slowly!—will teach your students by example that growth and learning is a lifelong venture.

3. Create space for new or experimental ideas. Whether you source these new ideas from your students, use them for your curriculum and planned in-classroom activities, or borrow them from your colleagues: Showing your students that you're willing to take risks and try new things will help you grow, and it will show your students what growth in action looks like. If you're able to give them a risk-free safe space to posit their own wild theories, questions, dreams, or plans, do so! (Anonymity may, once again, be helpful.) Then, taking the time to go through the potential that is displayed through each idea will help students realize that their ideas matter, and that being creative, bold, and thinking outside the box is a good thing that should be celebrated instead of derided or dismissed.

4. Build time into your schedule to self-reflect on the efficacy of your modeling. This is not a public, performative, viewable course of action: Modeling a growth mindset requires real growth on your part. Your growth is essential for making modeling meaningful. Taking the time to reflect on the new actions and activities you tried, how they worked, whether the risks paid off, and what you mean to do with the information you learned in the future are all pivotal steps in the process of self-growth. If necessary, schedule time in your planner to sit and think over the outcomes of changes you have prioritized. Consider it an investment in the efficacy of your teaching in the near future!

A Four-Step Process to Repeat for Continual Growth

Sometimes, it can be difficult to simply take the pieces of advice and activities above and put them into action. Other times, you can implement the above pieces of advice as much as you want, but you (or your students) may still find yourself stumbling at challenges, thinking fixed-mindset thoughts, or even reverting to thought patterns or habits you'd thought you had already surpassed. This is normal! Building a growth mindset is not necessarily a process in which you can expect constant, linear, or impressive progress. It certainly won't all happen overnight! In fact, there are those who might say that building a growth mindset is the first challenge you must overcome to

start enjoying challenges more—due to your new growth mindset! In other words, it's a positive feedback cycle. This, however, does not mean that it'll always be easy.

If you ever find yourself wondering how to distill the process of investing in your growth mindset down to its most essential basics, follow this four-step process. Remember that the first, most important step in cultivating a growth mindset is having true self-awareness. You have to be able to read your own mindset correctly, in other words, in order to be able to change it. This means that you need to be able to identify the specific situations which trigger a fixed mindset for you—and you need to be able to objectively notice and observe when you're falling into regressive patterns. Only then can you do the same for each of your students.

Note that this implies a rationale for what may seem to be mixed signals or uneven progress as you (or your students) work toward your fixed mindset goals. There are situations for each of us in which it will be easier to think creatively, push ourselves further, see goals with perspective, and grow. There will be different situations which cause us to have a much more difficult time. Again, this is normal—and the simple process of learning which situations we find easy and which we find triggering can provide us with a lot of information.

Here's the simple four-step process which will help you learn how to start listening to your mindset so that you're able to change it:

1. Learn to hear what your innate fixed mindset mentality is saying. When you're approaching a new set of challenges or stressful circumstances, listen to what your brain naturally reverts to saying. For example, a little voice in the back of your head may say something like 'are you sure you can handle this?' or 'What if this goes terribly?' Sometimes this inner voice is smug, saying things like 'Well, obviously, that was going to be bad.' Other times, particularly when you're on the receiving end of constructive criticism, this inner voice can turn defensive. You may find yourself thinking things like 'it's not my fault, and 'who are they to criticize me?' These voices and objections are sometimes termed the 'inner saboteur' by productivity and life coaches. Not coincidentally, these represent your fixed mindset. This can seem stressful and unhelpful, but identifying this voice is a powerful first step. Once you know that those thoughts are your fixed mindset speaking you can listen for it, and decide whether you're going to listen.

2. The second step is relatively simple, once you can hear that inner saboteur's statements. Your fixed mindset will attempt to position these statements as fixed

truths, and therefore immutable and unchangeable. Your task is to realize that this is not the case. Your task is to recognize that the choice is yours. When these unhelpful voices present smug critiques, you can choose to interpret them as a sign that it's time to challenge yourself, invest in more effort, change your strategy, and develop toward being a better version of yourself. In a moment where you could be focused on being hurt, judgmental, angry, or frustrated, you need to decide instead to focus on growing.

3. After you've made the choice to move forward, past stasis, you need to be aware that your fixed mindset is not going to give up the fight that easily. Once you've decided to grow through your challenges instead of dismissing them outright, your fixed mindset is going to say, 'But—are you sure? That sounds hard. You don't have the talent to do that. You're likely going to fail, and that's going to hurt.' When your fixed mindset says this, you need to have the self-confidence to say internally 'perhaps it will take effort, but I think I can do that.' With enough rebuttals, eventually, the fixed mindset will begin to die down. Some people find it helpful to physically write this dialogue out in notebooks, so they can flag out the unhelpful things their minds are telling them, and underline or otherwise emphasize the parts of their mental conversation that are pointed towards growth.

4. Finally, you'll be prepared to take a growth mindset action instead of one usually paired with a fixed mindset. Where your fixed mindset might have had you ignore criticism, fume about it angrily, or retaliate, your growth mindset will have you calm down, think critically about how to improve past the criticism—however much the critique was objectively deserved or undeserved—and find a way to become better at your craft. You might find a new way to challenge yourself, improve your teaching strategies, or otherwise adjust your actions to make yourself grow a bit more.

When you find yourself needing to troubleshoot your growth mindset oriented learning strategy, whether it for yourself, one student, or your entire classroom, it's definitely well worth slowly going through the above rubric to make sure that you're getting every facet of a growth mindset completely correct. Instilling a growth mindset in yourself or others takes a lot of work, and it's easy to get confused and think you have a growth mindset when you really don't.

To guide you or your students through the depth of this process, consider posting, asking yourself or others, or discussing these questions whenever you need to dig a little deeper:

- Is there more that I can learn from this experience?
- Are there steps that I can take to help me get to success?
- What, exactly, is the outcome that I want to see from this activity or experience?
- What more information can I gather from this experience? Are there other places I need to look for information?
- If I'm not getting constructive feedback now, where can I get it?
- If I wanted to be really good at a specific thing, what steps would that plan have on it?
- When can I accomplish those steps?
- Where will I need to be in order to do so?
- How can I make sure this happens?
- What are some specific things that I learned today?
- Did I make any mistakes today? What did I learn from them?
- Is there anything about my current strategies that aren't working? If not, what do I need to do to change that?
- What did I spend the most effort on today?
- What habits would help me get where I need to be?

As you can see from the tenor of these questions, keeping your mind on the specifics of the processes, their realistic contributions to your goals, and what you've learned from any challenging experiences are all key facets of having a healthy growth mindset.

Keep in mind as well that you can have a growth mindset for some things—and not, for others. Nurturing a growth mindset will be a lifelong project. Fortunately, it's one that will get easier and more productive with time.

Prioritizing Differentiated Instruction Tactics to Help Your Students Grow

One of the main ways you can help your students instill a growth mindset within themselves is to keep your instructional strategies varied. This will help your students realize that there are many different ways to learn a concept. It can also help your students find a mode of education that works best for them. This type of self-knowledge

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is essential for figuring out how best to overcome challenges and learn from the process of learning itself!

However, it can be difficult to find many different ways to educate your students. The benefits are manifold, but it does take extra effort—both in research and execution. In order to facilitate your varied, differentiated instruction technique, in order to help you help your students grow, we've compiled a list of time-tested and unique educational structures you can use in your classroom. Try them to see what works for you and your students!

- **Learning Stations:** You can set up your classroom to naturally provide several different ways to help your students learn information during an in-classroom learning session. Create divided sections of your classroom, populate each section with an activity or assignment which tackles your topic from a different angle, and have your students rotate through the stations. This can be done by having your students rotate several times in one class period, or just by using a flexible seating plan for more steady, controlled rotation. In each station, you could have students complete a different learning activity, including simply watching a video, creating artwork, completing puzzles, reading, or watching you teach. With learning stations, the emphasis does not need to be on individual creativity or excitement of each station.

- **Task Cards:** Another way to allow your students to experience a diverse range of educational content can be through the use of task cards. You'll need to create a set of flashcards, each of which has a question or a task that would normally be found on a worksheet. If you have the time and resources to do so, laminating the cards is a nice touch. Then, hand out the flashcards and have your students work through the question or task. Once completed, the students should swap cards for the duration of the classroom experience.

- **Conduct Interviews:** If you're looking for a way to get to know your students better, foster a sense of community within your classroom, and help your students become more comfortable with presentation and public speaking, a great way to do so is through semi-regular student interviews. At the end of a class period, have one student come up to the front of the room. Ask him/her what he/she enjoyed and disliked about that class period, what he/she learned, what was helpful, and how he/she plans to practice or study to learn a new skill. This helps the entire class see that there are different ways for students to learn, and it can make your entire classroom feel more open and honest. You'll have to make it clear that your students are allowed to say what they want to say, as long as they say it in a respectful manner (regarding,

for example, any dissatisfaction they have with their learning experience). If it feels too invasive or difficult to do this in public, you can also make a practice of simply pulling students aside during group activities to obtain this information.

- **Find ways to target different senses:** In order to appeal to a wide range of students with differing preferences for learning new information, try to find ways to resonate with as many different senses as you can during each lesson. This could involve researching ways to play videos, provide audiobooks, and use infographics when you're presenting new information or assigning homework to your students. You can also utilize more interactive methods of getting your students involved in a classroom experience, such as inviting your students to act out a scene from a book or from history or asking them to illustrate concepts artistically. Finally, there are some ways you can simply make your teaching style more effective and inclusive by providing written and spoken directions for tasks, passing around physical examples of academic concepts whenever possible, and asking questions from your students while teaching.

- **Share your own weaknesses and strengths with the class.** Think back to when you were a student: Didn't the teachers seem like faultless beings? Adults who had their lives together? Immutable forces of nature? Even if you didn't have great teachers, you probably weren't aware of any who shared their own growth processes with you when you were a student. This kind of transparency and honesty on your part can be incredibly powerful. If you share your own growing process with your students, it will provide another example to them that not everyone grows, learns, or processes information in the same way. Share the way that you review and study lessons. Tell students how you stay focused, what distracts you, and how you've worked to overcome the challenges in your own path.

- **Think-Pair-Share:** To help your students get used to learning, processing, and presenting information in different dynamic ways on a rather quick timeline, use this strategy. It's easy to implement, monitor, and support. When you present your students with a new technique, a reading assignment, or another piece of information, ask that they take a moment on their own to think about what they've just learned. Then, pair the students up, and ask them to discuss what they've learned with their peers. Help them to be receptive to ideas other than their own, and, perhaps, provide them with discussion questions on a board at the front of the class. Finally, you can take the time to open the discussion up to the floor. Ask each pair of students to share what they took from the assignment. This will allow students with

many different learning modalities opportunities to learn as they learn best. It will also show your students that different people will take different types of information away from the same initial source.

- **Consider Literature Circles:** If you're looking for ways to get auditory and participatory kinds of learners more involved in active learning, consider starting or promoting a book club, or a group that explores recent news and innovations in your field. This can help your students see the real-world applications of your subject, which will help them feel more incentivized to do the work to learn it—a central tenet of a growth mindset.

- **Offer different types of studying opportunities during free time.** Instead of asking your students all to read quietly when it makes sense to do so, appeal to many different types of mindsets and learning modalities by allowing your students to process information as it best suits them. This can involve setting up stations again, at which you can have your students play challenging, skill-teaching group games. You could have some students working in groups and taking notes together, allow other students to listen to audiobooks or recorded notes, and still, others to sit quietly and read if that's what they prefer. Taking away the onus of expectations regarding their time will allow your students to choose the manner in which they want to learn.

- **Assign projects to your students which naturally have open ends.** Instead of giving your students a definite assignment, it can occasionally be fun—and illuminating—to allow your students the chance to work on one of their own choices instead. Either give them an open-ended prompt or a list of projects to choose from. Define the expectations for your students—they must learn something specific, use a specific resource, adhere to a specific timeline, etc—in order to challenge them and to teach your students that outcome does matter. However, by letting them do it their own way, you can teach your students that they can achieve their goals by working and learning at their own pace. Challenge them to demonstrate the knowledge they've learned as effectively as they can, but allow them to do so in their own ways. Completing their own projects as well as experiencing the different successes of others will be very telling for your students.

These differentiated learning strategies can take time to implement, but it will be well worth it—for you and your students. See if you can challenge yourself to make classroom time more varied and interactive for your students, and see just how much more rewarding classroom time is as a result.

Helping Your Students Focus So They Can Grow

We have presented here many different options for helping your entire classroom incorporate a growth mindset. This might require some initiative for you to find many different ways to teach several children at the same time but should result in a more engaging classroom experience for everyone involved.

However, sometimes that's not enough. Sometimes, you may need to have the tools to help students who have had a rough educational past, or who don't fit in well with their peers. Other times, you'll need to be able to help students who are just having a hard time keeping up. There may also be occasions when your entire class—a class which is usually very well-oriented to diverse learning experiences—will need extra attention in order to get the most out of their learning experiences.

It might help to have several strategies on hand aimed toward helping your students become more mindful as they prepare to focus on your assignments. In this next section, we'll go over the various ways you can help either individual students or your entire class calm down and focus, which may help them become more receptive to doing the work for a growth mindset.

1. Start your classes with a moment of mindfulness. If you think about it, the transition between classes can be highly exciting and disruptive. Your students have spent previous class periods learning other subjects; in between classes, they took the opportunity to socialize with their friends or sprint across campus. By the time they settle down into chairs in your room, their brains are a jumble of activity. If you jump straight into your material, your students might have a hard time re-orienting themselves to be receptive to learning your subject. Instead, offer them the chance to re-set their minds, and prepare to work on your subject.

   This does not have to be a long process. After everyone is in your room, take a moment and have everyone sit upright, with their feet flat on the floor. Have them rest their hands on their legs. If they are comfortable with doing so, have them close their eyes. Then, ask them to focus on their breath. If you feel like asking them to deepen their breaths, that might be nice—but the focus should be enough. After less than a minute of that, ask them to open their eyes, then begin the lesson.

2. Incorporate movement into your lessons. Whether you put together stations, ask children to act out scenes or concepts, or simply have moving objects or learning tools which your students can physically interact with, and try to prioritize action over stasis. Movement can help stimulate specific networks in your students' brains, it can

increase blood flow, and it can alleviate boredom or frustration by varying your student's educational experience over the course of the day.

Emphasizing movement in your student's educational experience can also help even the playing field for students who have a hard time sitting put for the duration of a typical study period. Finally, it can make the study period go by faster by offering a more engaging learning experience for all involved.

3. Welcome your students to take sensory breaks. When was the last time you stared at a book or a PowerPoint presentation for 45 minutes without a break? After a while, the words start to blur together, and your mind travels elsewhere of its own accord. Allowing your students to take a sensory break—to move, to use their fingers, to color, to listen to music, to wash their hands—for a brief moment in the middle of your class can allow them to come back to their work refreshed and ready to begin.

   This can be a vital tool for teaching your students to appreciate a growth mindset. Instead of getting bored and giving in easily when the going gets tough, your students will learn through experience that with a short rest, they can come back to their projects with a new outlook and much more energy. It can be just this dose of extra perseverance which can allow your students to push through to complete their projects and feel successful in their accomplishments!

Each of these practices should make it easier for your students to focus on the lesson at hand, which will make their academics much more navigable. However, the benefits of these procedures go deeper than that. Helping your students learn how to focus will give them the tools they need to become calm and prioritize what's important—and what's right in front of them.

If you have one specific student—or a smaller group of students—who require individualized help, that makes sense. Go slowly, listen to them, and be understanding. Inviting your students to ponder the questions we presented above and discuss them with friends, parents, teachers, or even themselves in the form of journaling will likely help.

Summary and Conclusion

In this course, we went over the benefits of a growth mindset, especially when implemented in your classroom. A growth mindset is one that sees itself as plastic; as one that is able to change in response to obstacles, stress, or other challenges. Having

this mindset will allow your students not only to achieve success but to continually reframe what success means to them. It will also allow them to enjoy learning with considerably less pressure than is often possible with a fixed-mindset learning rubric, which balks at the idea of challenges or constructive feedback.

Helping your students cultivate a growth mindset can be difficult. Doing so may require you to brainstorm completely different teaching techniques, investing considerable amounts of time into listening to your student's feedback, and patiently guiding students through confusion and frustration. However, the benefits will be far worth it. Case studies show that when students are able to implement a growth mindset within themselves, they are far better equipped to be happy throughout their studies, work harder for longer, and ultimately achieve the success for which they've worked so hard. A growth mindset is a fundamental way to change someone's life for the better: and your efforts to help your students cultivate their own growth mindset mentalities will certainly reap endless rewards in time.

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Growth

Introduction

It can often be easy to think of teaching and learning as a one-way interaction; one in which students passively receive instruction and learning principles, and teachers facilitate that learning. Traditional learning techniques tend to use this philosophy as a starting point. However, that can result in bored students and ineffective teaching practices. Updated research tells us that a more effective and enjoyable way to invest in increased student learning outcomes exists. Prioritizing student engagement can increase many metrics of student success and happiness, but this technique does require thinking outside the box.

In this course, we'll go over the ins and outs of student engagement to aid you in helping your students have a good learning experience.

Case Studies

Creating a space specially oriented to student engagement

Drawing on previously-completed research that linked innovation to the physical space surrounding potential innovators, one school decided to invest in student engagement by creating a makers space on campus that was specifically designated for students to delve deeper into their studies by researching, experimenting, and having discussions with their peers. Teachers monitored this space, but it was made clear that this was a location for students to learn to be autonomous thinkers and self-directed learners. After building, decorating, and implementing the space, the school staff noticed that students who routinely used its assets completed more creative work, seemed more focused and alert while in class, and reached out more to students and teachers to broaden their learning experiences.

Curating an engaging online community

One school that had an all-remote learning structure realized that students who didn't have the full spectrum of classroom experiences - including a carefully-designed learning environment, interactions with peers, and the ability to easily reach out to the teacher or resources to resolve issues or learn more - weren't receiving nearly as well-rounded of an education. The school sought to correct this by inviting their students to chat with the rest of their classmates online, making suggestions and hosting events to help students modify their at-home studying spaces to make them more satisfying and helpful to work in, and having their remote teachers spend a few minutes at the start

and end of every lesson making it clear that students should feel free to reach out. The teachers were also asked to host virtual office hours. As students began taking advantage of these opportunities, the school was pleased to see grades rise, participation increase, and counts of student dropouts decrease.

Engaging the totality of the student body

One academic institution with a very diverse student community was struggling to connect with each and every student. Many students were admitted to this school underprepared by their previous teachers, so the school realized that making up for a lack of preparation by investing in healthy student engagement would make a large difference for every student. To work toward this, the school created several opportunities for students to volunteer during their extracurricular hours in initiatives that would benefit the community, invited students to tutor one another, hosted career fairs during which they proactively connected the lessons of the students to future job potential, and they educated all teachers and staff members in ways to drive student engagement on a class-by-class basis. As a result, the students seemed happier, more dialed-in to their lessons, and less likely to underperform or drop out of school.

Summary: Lessons Learned from Case Studies

All teachers want to help their students learn. The way that teachers often channel this inclination is by preparing robust, logically-laid-out lesson plans. While this is undoubtedly helpful, the above case studies show us that focusing on the experiential parts of learning that are not strictly found in lesson plans can improve the entire student experience - and drive active learning, student motivation, and student participation during in-class activities. While investing in classroom decor, the ways in which teachers instruct, student socialization, and other student engagement practices may not seem like the most strategic investment for a school, the levels of student happiness and student retention that typically follow these investments make a strong case for prioritizing student engagement.

Section 1: What Is Student Engagement?

Before we delve into the research supporting best practices for student engagement as well as practical tips to support student engagement in your classroom, it might be best to spend a few minutes discerning precisely what the term means.

Why It's Difficult to Define Student Engagement

If you didn't have any teaching background and were wondering what 'student engagement' meant, it might be difficult to put together an ad-hoc definition. This is because the term is inherently vague. In itself, the phrase doesn't have any information as to the targeted object of student engagement, in fact. A relevant follow-up question might be: When referring to 'student engagement', what are the students engaging with? In academics, this could be assumed to be the teacher, various learning activities, the courses they're studying, or even their own innate sense of decision-making (ViewSonic, 2020).

The definition of student engagement has changed over time. In many modern cases, when teachers speak of student engagement, they're noting a general goal that their students are involved in every aspect of their academic environment - which can include social activities and extracurriculars (ViewSonic, 2020).

Others argue that true student engagement begins where the basic necessities of minimal student participation end. When students do merely what it takes to pass their course or complete their assignments, they're just participating. When they're engaged - according to this idealistic definition - they're clearly invested, they're excited to learn, they want to do the work (to a certain extent), and they're interested in more than just memorizing facts. They seek to understand (ViewSonic, 2020).

What are the different types of student engagement?

Perhaps another reason that student engagement is difficult to define is that there are a few different dimensions in which this engagement can be displayed. There are three main types of student engagement:

- **Behavioral Engagement:** This type of student engagement reflects the level to which students participate in their classes. As such, it depends on both student attendance and student concentration levels. Students are behaviorally engaged if they are involved in all aspects of learning, including social. facets. Behavioral engagement will also be shown if a student participates voluntarily in extracurricular activities (ViewSonic, 2020).
- **Emotional Engagement:** This type of student engagement is geared toward a student's feelings. With respect to their chosen field of study, their teachers, their experience, and their peers, emotionally engaged students appear satisfied,

curious, and (when asked) demonstrate that they feel that their education and lessons have value for their own lives (ViewSonic, 2020).

- **Cognitive Engagement:** When students are cognitively engaged, they are invested in their own education from a mental standpoint. They are motivated to do the work and attain an understanding of complex topics, they are excited to really take ownership of their education, and they are able to pursue their own educational goals with some measure of success (ViewSonic, 2020).

It's important to note that because there are at least these three dimensions of engagement, it's possible for a student to be fully engaged in one respect but not in others. Because of this, it's vital to prioritize working with your students in such a way as to maximize the different types of engagement for each individual student (ViewSonic, 2020).

How can you measure student engagement?

In the past, teachers have measured student engagement primarily based on reports from the student. Students are expected to be able to gauge their own levels of engagement and provide accurate feedback on how they feel about their teachers, courses, and lessons. From this feedback, teachers have been able to deduce the levels of engagement from their students (ViewSonic, 2020).

In many cases, this type of self-reporting comes from anonymous student surveys at the end of courses. Whether by paper or through tech-based systems, these questionnaires have been one of the main tools used to measure student engagement. Regardless of whether tech-based tools are involved, some level of observation is required (by both student and teacher) in order to get a sense of how engaged a student is (ViewSonic, 2020).

If you're a teacher, you can look for these signs of student engagement and, conversely, disengagement:

Signs of Student Engagement

There are several times in your class when you can watch your student's behaviors in order to gauge their engagement. Pay attention at the following times and you'll get a good idea of how your students are doing:

- **At the beginning of your class period:** If you're looking for the correct actions, you should be able to discern student engagement from the moment your students walk into your classroom. As you're starting your class period, look for the following behaviors signaling the different types of engagement:
    - **Emotional engagement:** If your students are emotionally engaged, they will smile and make eye contact with you when they walk into the room. They will greet you with politeness and respect. When you are giving any instructions for how the class period will proceed, they should nod and make eye contact.
    - **Behavioral Engagement:** Your students will have all of their proper paperwork, books, homework, and tech materials to participate in your class. When they reach their seats in your classroom, they begin to review work or scan their homework to ensure that it's ready for your perusal. When you begin the class, they listen to you and respond to your introduction in a way that makes it clear that they're listening (for example, by asking questions or laughing when you make a joke). If you're playing a video or showing an animation at the front of the class, you can see their eyes track the movement.
    - **Cognitive Engagement:** You'll be able to tell if your student is cognitively engaged if, once he or she enters your classroom and sits down, the student takes out materials that might help during your lesson (such as a pen, a notebook, or a calculator) (Fulton, 2019).
- **During the class, and especially during any teacher-led instruction:** Even if you're diversifying the way that you present information to your students, you likely spend at least some time directing your students by presenting from the front of your classroom. When you're doing so, don't focus on just the students who are mirroring your enthusiasm for your subject. Instead, focus on every student - including those whose minds are clearly wandering. For signs of fully-engaged students, you'll want to keep an eye out for:
    - **Emotional Engagement:** Students who are emotionally engaged will likely show it on their faces with interested, open, curious expressions. They'll also react in real-time as you're delivering the lesson - looking concerned, surprised, or laughing as your presentation deems appropriate. When you ask a question, engaged students will likely respond enthusiastically instead

of looking anywhere but at you; and, finally, emotionally engaged students will offer their own input (often, whether you ask for it or not).

- **Behavioral Engagement:** If your students are behaviorally engaged in your classroom, you'll find that they appear to be actively listening. They'll ask questions, they'll take notes, and they'll be able to answer any questions you pose that are very simple (tracking attention and very basic comprehension). Finally, you'll find that your students are engaged in this way, they'll respond immediately when you give them a classroom direction.

- **Cognitive Engagement:** When your students are cognitively engaged in your classroom, they'll be able to do a bit more than simply answer rote questions: They should be able, in fact, to ask questions themselves that show that they're deeply curious about the material that you're presenting. They'll also be able to offer insights of their own - for example, to connect what you're teaching currently to other concepts presented at other times (Fulton, 2019).

- **While your students are busy with group activities:** Group activity participation is one of the best ways to help your students enjoy increased engagement in your classroom. You may also naturally have more opportunity to observe your students' engagement while proctoring a group activity, so taking the time to walk around your classroom to monitor your students and look for these indicators will be time well spent.

    - **Emotional Engagement:** Check to see whether your students seem to be interacting well as a group. If everyone seems to 'fit in' well together and there aren't any 'outsiders,' it's a good indicator that everyone is emotionally engaged. As you observe all the members of the group, check to see whether they're offering input without reservation and that everyone is speaking to one another with respect. Finally, everyone should seem interested and enthusiastic about the assignment. You can read this in the various tones of voice used by the students in each group.

    - **Behavioral Engagement:** You'll be able to gauge how behaviorally engaged your students are by observing how closely your students follow the rules and parameters you set down for them. If every student listens when it's time to do so, pitches in to help with the project, and otherwise functions

well as a team player, they are likely quite behaviorally engaged. Further, simply check to see if the students focus on the activity at hand for the duration of the time that they are working together.

- **Cognitive Engagement:** Check to see whether your students are discussing the concepts at hand with a clear aim to learn about the subjects further. If they're doing a good job of probing into the material, making connections, and asking questions of each other, they are likely very cognitively engaged (Fulton, 2019).

- **While your student is expected to get work done alone:** While group activities are among the easiest ways to promote student engagement, individual desk work may be the hardest! Perhaps because of this, it's an especially good time to observe your students in order to ascertain whether they're engaged on their own. Look for the following indicators:

    - **Emotional Engagement:** When students are emotionally engaged in a class, they usually appear interested in the work. The student will exhibit a focus on the work and will enjoy completing activities and assignments in your classroom.

    - **Behavioral Engagement:** When students are behaviorally engaged, you'll find them working at their desks diligently and carefully. They'll read the instructions all the way through; they'll follow even difficult or complex instructions, and they will persist through difficult assignments. If students have questions related to the assignment, they will raise their hand and ask you for help. Finally, they will keep an eye on the clock, plan out their time accordingly, and submit the completed assignment on time.

    - **Cognitive Engagement:** Indications of cognitive engagement abound when a student is working alone. Firstly, you'll notice that a cognitively engaged student will be proactive about using methods or tools that help process large amounts of information (such as note-taking, writing in margins, or highlighting). They may also go above and beyond the requirements of your lesson for their own best performance (such as making a written plan themselves or drawing out a diagram before beginning a project). Cognitively engaged students will do the extra practice problems, will ask probing questions, will check their work once they're done to correct any

mistakes, and may even go to the library once done with the assignment to get resources to learn more (Fulton, 2019).

- Lastly, just as you can often tell how engaged a student is by his or her entrance into the classroom, you can often gauge engagement by the exit of a student at the end of class. To measure student engagement, consider the following:
    - **Emotional Engagement:** As your students leave your classroom, they should politely say good-bye to you, make eye contact, and smile. It should be evident that you didn't tire them out, and that the material you presented wasn't overly confusing or frustrating.
    - **Behavioral Engagement:** If your students are behaviorally engaged, they will be able to sustain good habits as they leave your classroom. They'll follow your end-of-class instructions, they'll clean up all of the different work areas in your room, and they'll work together to get these tasks done.
    - **Cognitive Engagement:** Finally, if your students are cognitively engaged, they'll make use of a notebook or organizer to keep track of any further assignments you're giving them (Fulton, 2019).
- In a later section, we'll discuss how to boost each type of student engagement specifically. Knowing where your students are, to begin with, will give you an idea as to where to begin your efforts.

Why is student engagement important?

Student engagement is important for several reasons, including the following:

- Students learn more when they're engaged - often, very easily, or subconsciously. One article out of Harvard very specifically showed that using classroom techniques that are designed to invite students to participate in the learning process (instead of being passive observers of it) produces better learning outcomes. In other words, if you're looking to help your students learn more, learn more quickly, and even have higher success with heightened academic metrics such as standardized tests and quiz scores, investing in student engagement is one of the best ways to do so (Reuell, 2019).
- It makes your job easier and more enjoyable. When students are engaged in the learning process, they are far more likely to ask questions and deepen their understanding of your topic on their own. They're also far more likely to sit still,

not be disruptive, and be easier for you to manage. Student engagement supports student focus - which means that you won't have to spend as much time on classroom management. You'll be able to invest more time in actually teaching your subject (Reuell, 2019).

- Student engagement is more reassuring to students themselves. When students engage with their learning material, they feel far more competent in the subject. They feel more confident in their ability to learn a new thing. This confidence will go a long way in a student's overall learning experience - which is important in determining just how much (and how effectively) the student actually learns (Reuell, 2019).

- Student engagement provides the building blocks for eventual student autonomy. When you're teaching elementary and high school students, the teacher is expected to do much of the groundwork for inviting their students into the learning process. That expectation more or less ends when a child graduates and goes to college. At that point, students are expected to take responsibility and ownership of their own education, enthusiasm for learning, motivation to do hard work, and more. However, that transition cannot happen instantly or magically. As the teacher, you have to provide some of the groundwork in order for that to happen. If you start by making your lessons more engaging and showing your students the value of engaging in their education, you're helping your students with their future chances of success (Reuell, 2019).

Section 1: Summary

It could be easier to say that student engagement is a soft science, not a priority, or the responsibility of the student alone. In later years, as students are in college or participating in other avenues of higher education, these students will be in charge of their own engagement practices. However, when students are younger, this motivation must usually start with the teacher. It isn't all for the benefit of the student. Having a classroom of more engaged students will make the job of the teacher much easier in the long run. While it can feel strange to shift focus from strict teaching skills and the quality of lesson plans and practices, the case studies and research show that this time invested will be well worth it.

Section 2: The Research on Student Engagement

We've covered why student engagement is important, as well as the different types of student engagement and how it can be accurately measured. These are all good practices, as well as good priorities to keep in mind. However, the science behind the benefits of cultivating student engagement goes far beyond what we simply see. Cognitive therapists and pediatric neuroscientists have been studying the way children learn for a very long time now.

As it turns out, many of our best practices for increasing student engagement are biologically-backed to help student's brains form well - now and in the future.

The Link Between Classroom Organization, Emotional Support, and Student Engagement

When it comes to gathering the correct ingredients for student engagement, a good place to begin is understanding why certain classroom and relational practices result in more active learning and more engaged students. After all, knowing the link between labor-intensive practices and their results make the process much easier to stick with.

We'll start with the classroom organization. In order for students to take more ownership of their own education, they need to have some idea of the tools that are available to them - and how to use them. A similar analogy might be if you wanted to become a better cook in your kitchen, or if you wanted to learn how to build a deck in your backyard. If you wanted to have the maximum chance of success with your new venture, you'd probably want to take some time to clean out, organize, and label your pantry; or to go through your toolbox and make sure that none of your tools are broken.

This way, even if you're not sure what you're doing and you're depending upon a recipe or an instruction manual for every step of your project, you know that you have the tools available to succeed.

In the same way, making sure that your classroom is organized equips your students with the tools they need to be more engaged in their learning overall. Students that understand the way that your classroom is set up and the rules by which your classroom functions will also be more likely to behave - because they'll have a better chance of understanding why disruptive behavior doesn't really work in a productive classroom (Hadden, 2018).

Here are some additional practical ways that good classroom organization allows students to engage more with their studies:

- Students in organized classrooms will spend less time hunting for a resource or a tool (or, perhaps more accurately, getting distracted in the process of doing so) (Hadden, 2018).
- Students in organized classrooms won't have to set up their own learning space in order to start an activity. They'll be able to spend less time off-task, and, instead, be able to devote more of their in-class time toward completing the desired learning activity (Hadden, 2018).
- Students in organized classrooms also tend to learn more about proper executive functioning - that is, organizing their own time, attention, and energy well. Even if it's subconscious, students tend to mirror what they see around them. If they're in an organized classroom, you'll find that their projects and papers start to become more organized, as well (Hadden, 2018).

Next, we'll discuss the necessity of a healthy atmosphere of emotional support for student engagement. As a teacher, your goal is to help your students connect to the educational subjects you're presenting. You're asking students to pay attention to you as a person - even if you're simply setting up a video for your students to watch. Particularly if you're asking your students to pay attention to you for a class-length lecture, your students need to have a reason to trust that listening to you will be worth it (Hadden, 2018).

One of the ways that you can facilitate this is by creating an atmosphere of emotional support in your classroom. If your students see you as caring and responsive, they'll naturally see your presentations as participative activities (and not so much passive lectures, to be mostly ignored).

Another practical way that emotional support strengthens student engagement lies in the confidence that students have to tackle problems - and their resilience when, at least occasionally, they struggle with a topic or concept. Emotional support from you can buffer any negative associations that your students may have with a specific approach to learning. Emotional support from you can also help if a student has any problem behaviors that might normally stand in the way of becoming invested in the learning process (Hadden, 2018).

According to research out of the Journal of Educational psychology, classrooms that demonstrate high levels of both classroom organization and emotional support tend to have increased levels of student engagement. The researchers decided to assign a group of sixty-three different 5th grade classrooms a measured score for student engagement, and see whether that score correlated with how organized and emotionally supportive those classrooms were (Hadden, 2018).

The researchers measured student engagement through teacher reports on how engaged students seemed to be, student reports on how engaged they felt, and also by sitting in on the classrooms to observe student behaviors themselves. They also measured the three different types of engagement we mentioned above - the cognitive, emotional, and behavioral aspects of student engagement (Hadden, 2018).

The Link Between Digital Technology and Student Engagement

There is a popular argument against using technology in the classroom that boils down to a belief that technology reduces student engagement. Screens do not engage, the argument goes; and, sometimes, having information easily available and at our fingertips can reduce the value of that information in a student's brain.

While this argument and others like it could sound plausible, there isn't any real research to be found that supports it. Research does show that it's important to prioritize time away from screens in order for students to be happy and healthy, but there is no research to suggest that the presence of technology in the classroom leads to lower levels of student engagement.

Quite the opposite, in fact. A study out of the International Journal of Educational Technology in Higher Education found that the regular use of technology in the classroom has been linked to increased emotional, behavioral, and cognitive forms of student engagement (Bond, Buntins, Bedenlier, Zawacki-Richter, Kerres; 2020).

The researchers found this correlation by performing a meta-analysis of 243 prior studies on the efficacy of student engagement strategies juxtaposed with digital learning techniques. The researchers looked for many positive indicators of student engagement, with the most common being terms such as 'participation, involvement, interaction, and achievement', as well as any mentions of students interacting positively with their peers and teachers (Bond, Buntins, Bedenlier, Zawacki-Richter, Kerres; 2020).

By screening the studies in this way, the researchers were able to ascertain that 48% of all student cases (where students were exposed to digital learning techniques) found

positive identifiers of healthy emotional, cognitive, and behavioral student engagement. 22% of all student cases portrayed their students as fulfilling two of the three types of engagement, and another 29% of cases mentioned that their students were engaged in one specific way (Bond, Buntins, Bedenlier, Zawacki-Richter, Kerres; 2020).

All summed, that represents 99% of cases where students were exposed to digital learning techniques yet reported (and were consistently observed to have) engagement with their studies.

When the researchers performed the same analysis concentrating on positive indicators of student disengagement in classrooms where digital learning techniques were often pursued, they analyzed the cases for terms such as ‘frustration’, ‘rejection’, ‘opposition’, ‘disappointment’, and ‘disengagement.’

These indicators were found far less frequently among the disparate analyses (Bond, Buntins, Bedenlier, Zawacki-Richter, Kerres; 2020).

Finally, the researchers cross-referenced the student engagement and disengagement indicator terms with the type of digital learning media that the different classrooms used. Across the 243 studies in the meta-analysis, there were many different types of technological tools used. They included:

- Online discussion forums
- Recorded lectures
- Videos
- Online chat programs
- Assessment tools (e.g., online quizzes, etc)
- Website creation tools
- Social media and networking
- Text-based information sharing (e.g., blogs and articles)

Students in classrooms where text-based information sharing technology was used showed higher levels of engagement, whereas students who used website creation tools, social media tools, and online assessment tools showed indicators of disengagement. However, the levels of disengagement these students showed were small compared to the overwhelming presence of indicators of positive student

engagement; so, if anything, these tools specifically may have caused students anxiety or (particularly in the case of social media) made students disinclined to combine their personal and academic spheres (Bond, Buntins, Bedenlier, Zawacki-Richter, Kerres; 2020).

The Difference Between Feeling Like You're Learning and Actual Learning Juxtaposed with Student Engagement

All of the efforts that go into increasing student engagement might feel like a lot - and, potentially, a lot wasted - if you're not getting any measurable benefits from your endeavors. When it comes to measuring how well your efforts are working, you're going to be seeing a lot of qualitative (instead of quantitative) effects, at first.

That is, in the long run, you might enjoy seeing higher grades and other number-and-goal-based learning objectives increasing. That would be great - after all, that's one of the goals of investing in your teaching skills: seeing evidence of higher comprehension from your students.

However, you might not see that for a while. In the beginning, you might struggle to tell if your efforts are going anywhere. You may wonder if you're just amusing your students, or making them happier in your classroom. You may wonder if you're putting all of this work in to see actual learning increase - or if you're just wasting your time.

One recent study out of the University of California, Berkeley, took the time to question why many teachers (particularly STEM teachers) still rely on traditional teaching methods to present their material. These methods can be easier, of course. The researchers performed a survey and found that many educators seem to use lecture formats because of their simplicity (McCarty, Miller, Callaghan, Kestin; 2019).

The efficacy - in terms of the student experience - of active learning techniques versus passive learning techniques, when the two techniques were compared across different classrooms with identical course materials, was unchallenged. Students in active learning classrooms learned more. Those students felt like they learned less. The researchers in the University of California, Berkeley decided to study this perceived gap in learning and discovered that the difference was caused in part because active learning techniques require a lot of mental energy from the student - in addition to merely learning the academic part of the lesson (McCarty, Miller, Callaghan, Kestin; 2019).

When you consider the techniques often incorporated in active learning, this makes sense. With active learning, students are asked to go above and beyond a typical

learning objective to solve a problem, create a full-fledged project, or find a way to use a theoretical concept in a practical way. The mental energy required for generating that framework, as well as comprehending the subject matter (as opposed to simply listening to a lecture about the subject matter) alters the students' perception of how much subject matter they are taking in (McCarty, Miller, Callaghan, Kestin; 2019).

The University of California, Berkeley researchers advised teachers adopting active learning frameworks to find ways to address this misconception. As active learning techniques are proven to be more efficient and effective at helping students comprehend tough subjects, it's not necessarily that teachers need to change their methods. It is, however, important that students feel like they're learning quickly and well. If students feel that they're learning poorly, that can have a hugely detrimental effect on their own motivation to continue - and the ability to successfully self-regulate their studying habits. In order to help the students realize this, the University of California, Berkeley researchers conducted a large experiment where they compared the self-reported perception of learning from students in different programs, as opposed to their actual learning as measured by examinations, one-on-one interviews, and anonymous surveys followed by statistical analysis of all responses. After all of this assessment, observation, and research, the University of California, Berkeley developed several recommendations for teachers incorporating active learning techniques to help them help their active-learning students feel like they are learning adequately - or, more to the point - help their active-learning students feel like they are learning as effectively as they, in fact, are (McCarty, Miller, Callaghan, Kestin; 2019).

Their recommendations are:

1. Active-learning instructors, or instructors who are looking to vary their teaching methods specifically in order to increase student engagement, should **be very transparent about what their teaching style is meant to provide for the student**. To this end, every active-learning teacher should be clear up-front (perhaps on the first day of school, for example) that they will be taking a slightly different approach to teaching - and that their varied teaching style leads to increased cognitive benefits for students. Children are practical people. They will appreciate this information. They may also need reminding of it from time to time (McCarty, Miller, Callaghan, Kestin; 2019).

2. In order for children to get a handle on how well they are actually learning, it's important to **provide a baseline**. It may seem unkind, but providing some kind of examination or assessment as early on in the year as possible can help students

realize where they're starting from. Then, when a similar assessment is given later in the year, students will very concretely realize how much they've improved. (It may be a good idea to make students aware that the first exam won't count for a grade or something to that nature; rather, that it's a tool to help them realize how much they're learning). This way, even if your lessons are so fun and engaging that learning is painless and even subconscious, your students have something to point to when they seek proof of their progress (McCarty, Miller, Callaghan, Kestin; 2019).

3. After this, as you go throughout the year, teachers should encourage their students to work hard even during fun activities, remind them that it's important to think carefully about their work even when it may seem like an amusing field trip and encourage students when they're having a difficult time with advanced subjects (McCarty, Miller, Callaghan, Kestin; 2019).

4. The active-learning teacher should, according to the University of California, Berkeley researchers, constantly ask for student feedback throughout the year and prioritize quick responses to any student concerns (McCarty, Miller, Callaghan, Kestin; 2019).

Ultimately, active learning and other student engagement strategies work best if students understand that it will lead to deeper learning (instead of teachers hoping that they can 'trick' their students into soaking up knowledge through fun activities). To the extent that sometimes it seems like these learning activities can actually make students learn less, students need to realize that that is usually a simple misconception. There are specific actions teachers can take in order to mitigate this, and, when possible, they should (McCarty, Miller, Callaghan, Kestin; 2019).

Section 2: Summary

As student engagement has become more of an interest, researchers have devoted more of their time and resources toward studying its efficacy and probing practices which may make it even more helpful to students and teachers alike. By incorporating their suggestions regarding classroom organization, emotional connection, student feedback, and more, it is very possible to reorient your classroom toward active learning techniques and increased student engagement. As a result, your students should have a more productive and enjoyable learning experience.

Section 3: How to Engage Your Students

In the previous sections, we've talked about the importance of student engagement, as well as some of the latest research on why an engaged student is happier and more likely to succeed on a scientific, neurological level. On a more practical level, though: Are there surefire ways to ensure that your students are more engaged whenever they're in your classroom?

While the specific practices you employ will depend greatly on the students you have in your classroom as well as your specific teaching style, there are a few best practices that you could consider in order to help your students feel more engaged. Later in this section, we'll discuss ways that you can do so in specific circumstances - for example, when your students are distracted because of a large event, or if your school policies recommend that you teach remotely for a time.

For now, focus on the student experience of engagement. Student engagement is at its best when your students care about the material that they're learning when they feel welcome in your classroom environment when they understand the expectations you have of them (and how to meet them!), and, of course, when they have fun learning both alone and together.

That's a tall order! However, as the science shows, when students are more tuned-in in this manner, they're far more likely to achieve the goals you set them (or the ones they set themselves).

By crafting lessons that engage your students, you'll be helping them be willing to learn. Next, we'll cover some actions you can take to improve student engagement.

The Seven Principles of Engaging Students for In-Person Classrooms

When you're thinking about putting together a range of engaging lessons for your students in your classroom, think about using the following seven principles:

Start by using a range of different teaching methods

Your students are all different, and each of them will most appreciate a differing teaching and learning modality - for example, watching a presentation or movie, getting their hands messy with a fun experiment, or working quietly by themselves on an intriguing problem. In order to capture the interest of each of these different types of students, you should probably already be incorporating several different teaching

methods into your rotation. However, switching up your methods to present concepts and practice them in several different ways will engage different parts of your student's brains - even if they don't particularly seem interested in a teaching method that you're trying out.

As an example, consider when you're teaching your students vocabulary words - either in a different language or in a discipline such as science that has its own vernacular. It might be a good idea to begin by introducing this vocabulary in a textbook setting. However, that only really appeals to a subset of your students naturally and constitutes only one repetition of the material you want them to learn. After that initial exposure to the lesson, consider going over those vocabulary words again by having the students draw the words on large sheets of paper, act out the definitions as part of a game like vocabulary charades, write a story using those vocabulary words to share with the class or any other interactive ideas that you can offer.

The beauty of these different activities is simply that, after a while, your students won't really think about the drudgery of learning - they'll be so caught up in playing a game or writing a fun story that they won't think twice about the vocabulary they're naturally incorporating a little more each time.

This type of conscious planning might take more effort on your part, but the effects will definitely be worth it - and it'll be more fun for you, too, once you're able to laugh with your students while you're all playing a strategic learning game together (Brown, 2019)!

Spend some of your classroom time specifically getting to know your students

It might seem counterintuitive, but your students will, very likely, not care very much about learning from you until they feel they know you a little - and that you care about them.

This could take time. More importantly, it will likely be an ongoing commitment: You can't just take a few minutes out of your first class period to get to know each other, and then drop it for the rest of the year! If you can show students that you care about each one of them (and you know how to speak to each one at least a little about their lives), they'll be more able to see that you're putting in the time and effort because you want them to succeed. They'll respond to that!

One simple practice you could follow is to set a timer at the beginning of class to chat with your students about what's going on in their lives - or, if that feels too formal, 'breaking up' your class time by setting a short timer to allow students to catch up with

their peers in small groups (while you join in the fun). It's easy to feel like this is wasted time, but it goes a long way toward making your classroom feel like a more homey, secure, and safe place to be - as well as one in which your students feel like putting in the mental effort is worth it.

As we mentioned above, allowing your students this social time covers another base of student engagement, as well. If your students have had time to chat and socialize, with you or with a friend, before your class formally begins, they'll be more relaxed and able to 'tune in' to your activity or presentation with a higher level of focus (Brown, 2019).

Help your students use technology-based tools whenever possible in your lessons

Children almost universally find technology, particularly devices that they can control themselves, to be engaging and fun. Technology can allow you to have a lesson that's a little more student-oriented, giving you the ability to walk around and speak to each student more personally. Technology can also assist with catering each lesson or topic to a specific student's learning style and learning pace.

When you're thinking about introducing more tech elements into your classroom, turn to the Internet first to see how other teachers are safely, strategically doing so. There are student-geared websites, now, that help teach students how to code through fun, dynamic games - or others that piece together learning quests for each individual student that can help your students get more excited about studying off-screen, too. Helping students get the most out of technology and set healthy practices to use it well also sets them up spectacularly for a future career, for good screen boundaries in the future, and to have more ownership over their own studies.

There are also some instances in which technology-facilitated learning is actually much easier and better because of the collaborative tools found online. When you teach your students how to work effectively in tools like Slides and Google Docs, they can comment on each other's work in real-time, get feedback from you quickly, and learn more about how projects are completed in a modern workforce. It also engages your students simply by facilitation: When the logistical barriers to an interesting academic activity (such as feedback lag time, figuring out how to share files, etc) are lowered, students become much more interested in active participation (Brown, 2019).

Invest in project-based learning

This practical form of educating appeals to children, who enjoy figuring out real-world applications to more theoretical concepts. A good framework for a simple project-based learning lesson might be to pose your students a question related to your subject matter at the beginning of class. Then, allow your students to work together in small groups to find a real-life answer to this question, using textbooks, approved websites, or other resources. This challenge will teach your students a lot about the logical process of completing projects and answering questions, as well as the actual content of the question or topic you're asking them about.

As an added bonus, this type of learning, while undoubtedly instructive and valuable, will tend to feel more like an art project, scavenger hunt, or competition to your students. Because of this, they'll be far more likely to get excited about doing it well. Your preparation for these types of lessons can be far less constricting as well - you need only set up a prompt, provide supplies and resources, and be able to help your students as much as you can (perhaps by going around the classroom and spending a few minutes with each group during the course of your class.) Allow your students the option of presenting their project or findings to the class in any way they prefer, to vary a less-than-exciting day of student presentations. They could make a video, put together a tech-based project like a simple website, design and print a brochure, or anything else that feels right to them.

Another example of a fun hands-on activity is a make-believe crime scene investigation. Your school's history and science departments could work together to stage a historical crime, with as much scientific integrity and accuracy as possible. (The drama department could likely get involved, as well). After everything's set up, allow your students to go in and figure out what happened by conducting scientific experiments, gathering evidence, and using safe, effective online research habits to learn more about the setup. This type of activity can teach your students so much about many different types of disciplines, and - simply because there are so many people and novel elements involved - will be so engaging that your students really won't even have the choice to look away (Brown, 2019).

Whenever possible, allow your students to make choices about their education

This will help your students learn good decision-making practices for their future, and also help them become more interested in the process of their education now. This will

result in less decision-making for you, and a lot more freedom and confidence for your students.

Of course, you'll have to exercise caution figuring out which choices are safe for your students to own, and which are better left to you and other authorities. However, the choices that your students make don't have to be drastic in order for everyone to experience their benefits. For example, you could:

- Allow your students to choose their own seats on occasion
- Tell your students that they can complete even-numbered or odd-numbered problems on a homework project
- Allow your students to pick topics for projects, when prudent, or give them the opportunity to pick books for discussion from time to time.
- If you're proctoring technological topics, allow your students to pick the subject for the website they're building, or allow them to use the program of their choice to learn new material.
- For older students, you can provide a loose outline or guide for a topic they need to learn more about and allow them to pick something that interests them, a method of exploration, and a schedule that works for them (with you as a constant resource).
- This ownership, freedom, and responsibility will naturally lead to more student engagement (Brown, 2019).

Incorporate learning games

Children are naturally curious - and naturally competitive. Even the quietest of students will likely be eager to prove themselves when matched up against another team (or even their own previous record). Leveraging that initiative to increase your students' interest in learning is fair game - literally.

There are hundreds of ideas for friendly, productive competition that you can use in your classroom. Depending on the specific subject matter, it might be a good idea to introduce the subject material first from a textbook or more traditional presentation, and then use a good game to help your students really incorporate that information. Some easy examples of games that you can bring into your classroom without much of an investment or required extra materials are:

- Hangman
- Trivia
- Bingo
- Jeopardy
- Charades
- Pictionary
- And others!

As an added benefit, these types of games will also help appeal to a wider range of student learning modalities.

Analog games aren't your only option. You can make an interactive quest that incorporates learning objectives for your students, or pit remote classrooms against each other in trivia competitions. Make some easy point system to promote the benefits of gamification in your classroom, and you'll be taking full advantage of this strategy for student engagement (Brown, 2019).

Finally, concentrate on making your teaching style more personal for each of the students

This can take time, but it will have vastly helpful results. If you can connect the material that you're teaching to each of your student's lives, each student is going to want to hear what's going on because, suddenly, you've made what might have been an extremely vague, nebulous, or 'out there' lesson extremely relatable. Finding a way for each student to relate to the lesson, to connect it to their world, is a fantastic strategy for student engagement.

This may require thinking outside of the box a little bit. If your students are learning about percentages in math, for example, don't just talk about math problems in the abstract. Take them to a store (virtually, through a web browser) and walk them through the mechanics of sales on items that they might want to purchase. Give each student a hypothetical allowance, and ask them to pick out which items are actually the cheapest based on percentage-based sales happening around the store (or, if you choose to make real-life displays, around your classroom).

Not only is this way more fun and memorable than a simple word problem, it also helps teach your students a very real skill that they'll have to use in real life.

Extend this same concept to other disciplines. Talk about the reason why the sun goes up in the morning, topics related to your student's favorite TV shows and musical artists, or the physics and statistics that go behind your student's favorite sports. This will make your students feel like what you're teaching is more practical, more interesting, and more worth paying attention to (Brown, 2019).

These seven principles will take more work, but will ultimately lead to a far more interesting and productive experience for both you and your students. Apply them wherever you can; your students will thank you for it in the long run!

How to Increase Student Engagement While Teaching Remotely

Sometimes, it may become necessary to teach your students fully remotely. Whether this is because of a disaster, a pandemic, or simply because a student requires an at-home learning setup, it's still important to figure out how to boost engagement from the other side of a screen.

It's still very possible to do so, though it may take some creativity on your part. To make it a little easier, we've corralled several tips for remote engagement in this section:

1. Start by considering your students and their specific lives, as well as the conditions that have made remote learning necessary. They likely go back and forth from being scared and excited about this new change in their lives - and being bored because school is still school. Make sure that you cater your remote lessons to the well-being of your students. Check-in on them. Assess how they're doing. Track data regarding their happiness and excitement, as well as their grades. Speak to the challenges that they're going through, as well - that'll make it feel more like a conversation, and less like a remote presentation (Heick, 2020).

2. Consider simplifying your subject as much as you possibly can. Especially if remote learning is a transitional or temporary arrangement for your students, you may not need to barrage them with thousands of details. Instead, cover the basics, and give your students opportunities to deepen their knowledge of the subject through self-directed activities at home. Then, focus on imparting those basic pieces of information in as friendly and fresh of a way as possible, instead of getting bogged down in specifics (Heick, 2020).

3. Break up the amount of time that you're in class. If at all possible, try to meet with your students a few times a week for twenty minutes as opposed to once a week for an hour (or a similar version of your expected schedule). This creates rituals, repetition, and regular check-ins that will prompt productivity. This is particularly helpful if the students you are teaching are extremely young (Heick, 2020).

4. Invest in a good-quality audio and visual system. Young students are extremely visual people, and, if you're transitioning to remote learning, you just became a much smaller part of their field of vision. Get yourself good lighting, an audio system that won't drop or cause static, or simply download some fun Zoom backgrounds and happy music to play during activities. Every little bit helps (Heick, 2020)!

5. Use games as often as you can to break up your day (or, subtly, to teach). There are many online resources that you can use to make custom games based on your subject (for example, Jeopardy-style trivia games). Teach your students how to 'buzz in' remotely upfront to reduce frustration, and then make it clear that you'll be playing fun games often (Heick, 2020).

6. While you're proctoring your remote class, try to conserve as much privacy for each student as possible. This can be difficult; after all, you're used to a very different form of classroom management. Try not to call out students in front of the rest of the class, speak with your student's parents about what is featured in the background of their screens, and when students are acting up, it may be better to let them run their course (and follow up later) instead of using up the remote classroom time managing an antsy student from afar (Heick, 2020).

7. Assume that you will need to be an IT troubleshooter, as well. You're depending upon a lot of internet connections, a lot of different computers and devices over many operating systems, and several other factors. In the face of all this, it's a good idea to know up-front that something (and, likely, many things) are going to go wrong. After you've tested all of your own personal A/V equipment, try to brainstorm a list of what tech problems your students might experience, and come up with a quick fix for each scenario. Having these kinds of answers ready to go will save a lot of time later (Heick, 2020).

8. Adopt a 'before, during, and after' framework when it comes to your lessons - for yourself and for your students. When you're putting together your lesson plans, make a list of what you would like your students to have completed beforehand

(watched an introductory video, for example, or read a section of a book and completed a questionnaire), what the specific goal of your remote classroom time is, and then what you'd like for a student to complete directly after your lesson. Send these expectations to your community, and mention them in class. This three-part framework will be easy to remember for both you and your students (Heick, 2020).

9. Become a master of your sharing software. Once you've found out which apps and platforms you'll be using for communicating and teaching, watch tutorials, experiment with them, and figure out what every button does. It'll make you a more confident teacher, which will make your students more confident. It'll also allow you to really take the most advantage of your software, which can help you make your lessons even more engaging. If it helps to create a 'cheat sheet' while you're still learning the systems, do so (Heick, 2020).

10. Connect as personally as you can. If your school allows it, make sure to send your students individualized emails, chat over messages, and talk to smaller groups of students in video calls. That'll make your student's experience feel a little more like in-person school, and a little less like watching a remote presentation. Any opportunity you have to remind your student that you are a real person who cares about them instead of an impersonal screen is a good one, so, take it (Heick, 2020).

Creative Alternatives to Lectures While Remote Learning

When you're putting together your students' remote learning lesson plan, it's easy to simply plan a series of lectures. It's often the simplest way to get information across, especially when you're already dealing with the other difficulties of setting up a remote classroom. However, you may find that this isn't the best strategy for helping your students pay attention in class.

Here, we've listed out several different types of remote learning classroom activities you can pursue with your class that may be slightly easier for students to enjoy.

1. **Peer-to-peer learning:** Assign each of your students a subtopic within your subject, and have them teach each other. You'll be on hand to help, naturally, and if any supplemental instruction is needed, you can step in at the end of the class.

2. **Game-based learning:** Format your lesson in line with a classic game, a scavenger hunt, or a friendly competition among your students.

3. **Project-based learning:** Assign each of your students a project, and let them run with it. Instead of lecturing during class periods, have students present on their projects; discuss what the class what they're doing and what they could consider doing next; and how it relates to what all of you are studying.

4. **Question-based learning:** Every so often, schedule a class that doesn't have a specific topic assigned to it, and ask your students to come prepared with questions related to your subject. (You could even frame it as a 'stump the teacher' day for increased student excitement). Then, spend the class period going through student questions. You can answer them or other students could contribute (TeachThought, 2018)!

How to Engage With Your Student During Necessarily Distracting Times

Every so often, it could become necessary to teach your students while something very important is going on in the background (such as a local disaster or a global pandemic). As your students' educators, it can often be your job to act as a source of stability for your students amid uncertain times. It can also become your job to figure out how to make the often prosaic tasks of education work out when even your normal support systems are crumbling.

One team out of Singapore recently managed to create a thriving and fully engaging remote classroom structure during economic uncertainty and country-wide health concerns. Their educators offer advice for a three-pronged approach that worked for them:

1. **Work to strengthen daily student-teacher interactions.** One of the unfortunate results of going remote when you're used to in-person teaching is that your time with each student drops precipitously. Particularly if you have impressionable children - or ones that happens to require stimulation of their senses or a conducive work atmosphere to pay attention - this can feel somewhat akin to abandonment. In other words, when you are physically distant from your student, it becomes even more vital that you brainstorm a way to invest in your specific connection with each student. There are several ways that you could easily implement small ways to do this.

    - Make yourself available just before a video class is set to begin. Using the chat function on your class-sharing software, take a moment to ask a few students personally how they are. (Rotate among students so that you can

check in on everyone without taking up too much of your time.) If possible, spend just a few minutes doing the same after class.

- Dedicate a certain portion of your class to elucidating the ways that students can reach you and reach each other. This will not be intuitive to your students. This will make them feel more comfortable asking questions and making comments in your class-sharing system.
- Remind your students to turn on their video-sharing settings, if your course management software allows it. This reminds them that they're on camera, so they shouldn't be doing something other than participating in your lecture.
- Position your monitor so that the camera is at eye level, and practice looking in the camera (instead of at the screen, or down at your notes). It may be helpful to put a little sticky note next to the camera on your computer to remind you where to level your eyes.
- Along similar lines, it can be helpful to set up your monitor and recording equipment so that you have the option to stand. You use more body language when you stand (as opposed to sitting). This body language conveys more information than you may be aware and can give your students something to track with their eyes - helping them stay tuned in to what you are saying.
- If your school allows it, consider trying a team-teach approach - where you have multiple teachers engaging in a conversation-style presentation instead of a monologue. This will bring up different perspectives on your subject, and will naturally be more interesting for your students to follow (Fung, Magdeline & Kamei, 2020).

2. **Take the time to request and read real-time student responses.** When you're putting together your lesson, try to etch out some time to sit in the chat function and respond live to questions. This will make your students responsible for asking good questions, and it will be reasonably exciting for them to type out a question and see you respond and answer it in real-time. You can also use their responses to cater to the type of lesson material you will offer in the future. It can be very difficult for students to know how to raise their hand in a remote classroom setting. Using question boxes, polls, or other interactive systems to promote

engagement and really setting aside the time to use them properly can result in a world of difference for your student (Fung, Magdeline & Kamei, 2020).

3. **Leverage student-to-student interaction as much as you can.** When you were able to teach classes in person, you may have used the opportunity to have your students 'teach each other' as much as possible through group activities and discussions. It can be easy to think that those days are over, at least for a time, when you have to go remote with your teaching structure. There are a few different ways that you can do this with remote classroom software. For example, you could divide your students up into teams - and assign each team a specific chatroom, that only they (and you) can see. Pose a question to your classroom, and hold a competition to see which team can come up with a solution first. Some nominal treat to the winning team can make this more interesting to school-age children (Fung, Magdeline & Kamei, 2020).

Aside from this general three-pronged approach, there are other hacks and tips that can make remote learning much more effective and easy, including ones that we have covered above. However, one incredibly efficient way to invest in your student's learning experience is to ensure that your students' parents know how best to support their education.

Helping Your Student's Parents Understand How to Help Their Children

When it comes to helping your students, particularly those who are younger children, it is an inescapable truth that you need to help their parents. After all, even in a regular learning scenario, parents are pivotal players in helping with academics: Making sure children get their homework done, helping with more involved school projects, and answering simple questions if they're able, among other actions.

When we turn to remote learning, the level to which parents must be involved becomes even more pronounced. Their children may not have familiarity with technological devices or video-chatting platforms prior to beginning remote learning. Your children's parents will need to assist with a good audio-video environment at home. The parents will be the ones on-site with your children to help remind them that remote learning is worth their time and attention. In many ways, it could feel like the roles are reversed from a normal in-classroom learning experience.

Your parents might be very vocal about how remote learning should go. They might have very specific ideas that you don't have the ability to implement. They could also be very busy with commitments of their own during school hours. Whatever the status is, in

order for remote learning to go successfully, you need to harness the enthusiasm of the parents to a productive end. Here, we'll list out a few ideas for doing just that.

Start by, if possible, identifying the virtual equivalent of parental volunteer positions. Some parents may be working. Others may have time to give. Some schools use parental advisory committees to help school administrators meet the needs of their students. In remote learning, the technical and very practical needs of the students skyrocket - so now, more than ever, this type of go-between support is needed. If you're able to form parent advisory committees comprised of the guardians of children in your class or school, you can ask them to do the following (while surveying anonymously or managing online discussion rooms):

- Gather feedback on the ways children and parents experience virtual learning
- Identify specific pain points and frustrations regarding virtual learning
- Put together recommendations from these conversations to bring to school teachers and administrators
- Target specific information from select student groups, such as students with special needs who are learning remotely, or students who speak English as a second language
- Disseminate information from the school that might otherwise get lost in a crowded email inbox, such as school deadlines and opening dates, updates to school policies, or posts that the school has issued on social media (Liu, 2020).

Ask these parent volunteers to lead virtual classroom activities from time to time. Prior to going remote, you might have done this occasionally - asking parents to come in and speak about their jobs, guide the students in a simple exercise, tell stories, or speak to their specific experiences. By doing this, you'll vary your student's lecturing experience, which will lead to heightened interest and engagement. You'll also get a few minutes to take a break from presenting yourself, during which you can take time to understand the student experience of remote learning or check-in with your students. Doing so could be easy: simply add the parent in through a video conference call. If the parent doesn't specifically want to present, the parent can also simply monitor students through a video conferencing platform while the students watch an informational video (such as an educational documentary or a virtual tour of a museum that you may be streaming). After this experience, parents can facilitate a discussion of what occurred. Involving parents in this way will help your student's parents feel overall more positively about

how remote learning is going simply because it's their project, too - and it'll make your students more excited to tune in, as they see increasingly familiar faces pop up on their screens (Liu, 2020).

Ask parents who have experience with your subject to serve as tutors for your students. If you know that a specific parent has an interest or a familiarity with your subject, ask them if they'd be willing to participate in a homework hotline or a virtual tutoring arrangement. This could be as simple as having them set aside an hour of their time to be available to students for questions, or the parent volunteer could be paired with specific students who may be struggling for more one-on-one support. If it's an option, you could provide this parent tutor with materials relating to your students' homework in advance so they could familiarize themselves with the content and facilitate student understanding from a different perspective than you may be able to offer (Liu, 2020).

Ask parents who understand and celebrate the remote learning format to hold their own office hours for other parents. As we covered above, parents of students learning remotely need support so they can adequately help their children. Motivated parent volunteers can host informal parent support meetings to talk about the best ways they've found to support their children (such as, for example, creating at-home routines and building a supportive virtual learning environment), and this could be a great way to encourage and involvel parents. Creating a volunteer troubleshooting hotline could be a good idea, too, so parents can help each other solve any remote learning problems as close to real-time as possible (Liu, 2020).

If the parents of students at your school are pushing for specific remote learning policies, see if you can channel that enthusiasm into support that you can work with. Any of the above ideas are not only great to get parents more involved in their students' educational experience, but are also a surefire way to ensure that your students have the environment they need to be more engaged in their studies.

How to Help Your Students Find Ways to Socialize Remotely

Student socialization is an important part of the school experience - and often one which yields significant benefits for overall student engagement. Think back to your own school experience: It's likely that, in at least some part, the fact that you were able to discuss your subjects with your classmates contributed to your overall depth of learning.

Sometimes, those student-student connections happen organically, outside of the classroom. Other times, young children need a little bit of help figuring out how to create friendships with their peers. As school (and, traditionally, brick-and-mortar

classroom activities) is such an ingrained part of young student socialization, families may correctly wonder how their students are to receive the same benefits if current events dictate that school be taught remotely.

After all, many of the working mechanisms we already have in place for remote learning prioritize the main connection that defines education: Those between the student and the teacher. However, as we mentioned earlier, often, student engagement is just as much a function of the entire classroom experience as it is the relationship between each individual student and the instructor (Nikolajski, 2020).

The teacher who realizes this, and, in an emergency or routine remote learning scenario, takes steps to strengthen the student-student bonds and overall student experience in the remote classroom, can hope to benefit from these actions. To round out this course on student engagement, we'll take a look at ways to help students find ways to socialize when remote learning (and remote socialization) constitutes the new normal.

- Set up a remote dance, stretching, or cardio class for your students. If your students are at home, they may need help getting normal fitness levels into their daily routine; and, whether through recess, gym classes, or athletic teams, your students may already be used to working out together (Nikolajski, 2020).
- Conduct remote challenges and competitions. Have your students run a mile remotely, and compare their times to each other; host a trivia night, and encourage different teams of students to converse semi-privately in their own chat rooms (monitored by yourself or a parent volunteer) (Nikolajski, 2020).
- Host virtual game sessions. Technology has made it possible to play many games online (Nikolajski, 2020).

Ultimately, anyway that you can take your students' minds off the stress of current events and back to strengthening their relationship with each other (and having fun), the more you'll be able to provide them with a healthy mental re-set - and the more you'll be able to strengthen the backbone of your classroom, even if it's a virtual one. When your students feel that they aren't alone, even as they're sitting at home in front of a computer, they'll be more excited about tuning in. If they can remember that they're part of a close-knit learning community, they'll more naturally want to join in the conversation - and you can be a big part of making that happen.

Conclusion

As a teacher, you want what's best for your students. You want to find ways to teach them effectively; you want them to enjoy the time they spend in your classroom.

Sometimes, this comes naturally. Other times, this type of engagement can present a bit of a challenge.

When you're trying to find ways to increase student engagement in your classroom (in-person or virtual), it can be tough to know where to start. Following the research, spending time working on your classroom organization and student socialization techniques, and really prioritizing your emotional connection with your students can work wonders in this way.

The research also tells us one thing: Even if student engagement is difficult to define or measure in quantitative ways, it can be simple to tell when students are happy, productive, participating, and thriving. Increasing efforts toward student engagement seems to help towards those ends. When looking for ways to increase student engagement, finding ways to invest in your community, invest in your relationships, and be flexible about your teaching structure can go a very long way towards success.

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