THE EDUNEERING INITIATIVE

A GUIDE FOR STRATEGIC STUDENT ENGAGEMENT

DESIGNED, DEVELOPED, AND WRITTEN BY DR TORRENCE TEMPLE

RESTRICTED DATA

COURSE DATA FOR STRATEGIC LEARNING ENGAGEMENT PROCESSED AND PROCURED THROUGH ADVANCED NEUROSENSORY, BEHAVIORAL, AND CULTURLAL ANALYIS. COMBINED WITH INNOVATIVE APPLICATION OF COMMONLY ACCESSABLE LEARNING TECHNOLOGY, GENERATIVE ARTIFICIAL INTELIGENCE, VIDEO AND AUDIO GENERATION, HIGHLY ADVANCED LEARNING ASSESTS ARE DEVELOPED AND DISTRIBUTE USING A UBIQUITOUS ACCESS DESIGN TECHNIQUES.

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TOP SECRET: [NEED TO KNOW]

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THE GUIDING VOICE

The Knowledge disclosed in this document would be akin to a high-ranking government agent spilling state secrets aboout how the world functions and the inner workings of the invisible machine. The Eduneering Initiative brings together and shares educational trade secrets that typically take decades to learn, let alone master. The program aligns psycho-cognitive and cultural awareness, masterfully arranged technology design, and gravitationally engaging presentations that stretch the very definition of creativity in the classroom.

Teachers who have traversed the Eduneering Initiative have become site, district, and state award winners for their innovative designs and creative solutions for student engagement. Eduneering "Devs" are among the very best teachers on Earth due to this multi-teared and dynamically facited training. That stated, the training will not be easy; the challenge is very real. Stay on the path, dig deep with, and you will evolve the skills that will make you among the most talented and highly sought-after teachers who ever lived.

The voice you hear as you read through this document is that of Dr. Torrence Temple. He is the creator of the Eduneering Initiative, Co-founder of The Human Behavior Institute, IlluminateXR, author of the internationally accalimed AREA154: The Apocalyse Division. His experiences, success, failures, and tens ot thousands of hours of educational experimentation source nearly all of the Knowledge contain inside this guidebook of secret instructional skills. By all measures, Dr. Temple was a legend in the classroom. Revered by the thousands of K12 studneds as one of the very best instructors they have ever had. The knowledge contained in this book shares some of the secrets to his internationally award-winning success.

The path to greatness begins here.
Our nation's future needs you,
more than you could possibly know.

Dr. Randall Gwinn
Former U.S. State Department
Hope Academy
Bishkek, Kyrgyzstan
& Minnisota, USA.

THE EDUNEERING INTIATIVE

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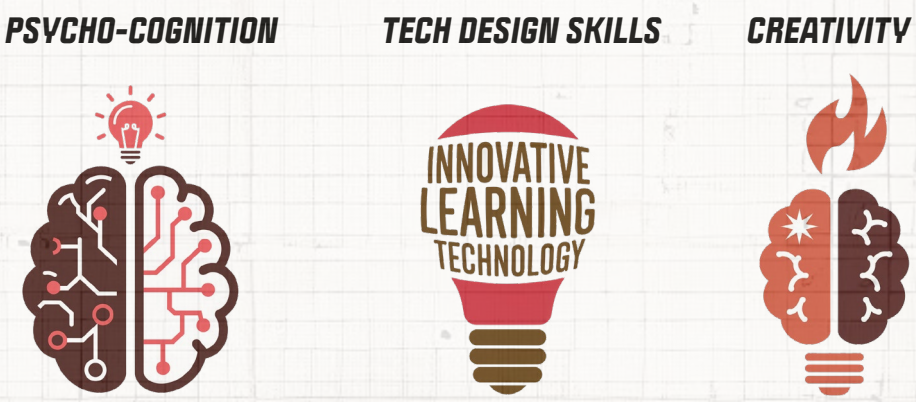
THE EDUNEERING INITIATIVE

The instruction on educational technology provided by district training personnel is often limited to Google Classroom, freeware that will ultimately expire, or software that requires teachers to add layers of additional complexity to their classroom to utilize technologies for learning. Teachers beg, borrow, and steal resources to provide the best educational opportunities possible. Too often, stories arise detailing companies that provided free services, dry up taking all of the teachers' instructional IP with it. Case in point: Flip-grid. Once a haven for video interaction, the place where tens of thousands of teachers built content to be viewed and experienced. All that content is lost now, because it was "free". The Eduneering Initiative aims to put the technological productive power into the hands of the teachers, permanently and ubiquitously for all of their students. All of the time.

Eduneering is heavily influenced by the ubiquitous learning model was first brought to light in 1991 by Mark Weiser. The idea was noble but way ahead of its time. The concept was well accepted, but only in a hypothetical framework as the technology to support such and idea was in its infancy. Now, world-wide networks provide portals to learning materials 24/7 and from anywhere on Earth. Though, that by itself is not enough.

Eduneering adds to u-Learning by deeply investing into the psychology of the learner, specifically their age and cognitive development, cultural acuities, not unlike how a Hollywood show runner would study their target audience to produce a show the audience would enjoy and continue to watch. Eduneering employs strategic psychological tools and exposes hard-wired psychological tendencies within the curriculum design process to draw students into the story of learning.

The Eduneering Initiative based on the u-Learning design models produces teachers possessing transformative power over instructional technology improved through psychologically sensitive, teacher-inspired, student-centered design enhanced by an understanding of neurosensory cognition to increase instructional efficiency. In other words, Eduneering-trained developers build ubiquitously available learning designed to provide greater instructional equity, opportunity for learning, and learning that engages the modern student to a far greater degree. Eduneering Developers will have total and complete control over their instructional designs and more power over their instructional environment. Ownership drives engagement. Teachers experiences this phenomenon in the same way students do, and will lead to improved teacher engagement, excitement, and empowerment over their ability to reach students and support them in an wildly technical and increasingly complicated world.



THE EDUNEERING INTIATIVE

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EDUNEERING VISUALIZATION



TECHNOLOGICAL INDEPENDENCE

Teachers develop computer production skill to build whatever one could imagine deployable from a fixed central location ubiquitously available for the learners to use through the interactive properties of the Omnidoc.

INSPIRATIONAL CREATIVITY

Teachers are taught to access tools that propagate the generation of customized and original content that can come to life through technology independence, creativity training, theme developments, and embedding instructions into engaging narratives. This process included specialized use of A.I. input to amplify and streamline the ideation processes.

PSYCHOLOGICAL INSIGHT

Teachers acquire training to deeply understand the learning behaviors, neurosensory processing, psycho-emotional and psycho-social influences that supports the design and construction of exceptionally engaging student learning environments.

SEMPER AD MELIORA

The Eduneering Initiative Developers code of operation, literally translated from Latin to mean:

"Always Toward Better"

A BRIEF HISTORY OF THE EDUNEERING INITIATIVE *(Part I)*

The core ideas for building an instructional design methodology that involved a heavy slant on thematic content delivery, such as *The Eduneering Initiative*, had its inspiration not in the halls of education, but rather a place that has mastered the manipulation of human emotions, behavior, and psychological programming ages ago. Yes, *The Eduneering Initiative* was inspired by Hollywood, more specifically, the hit TV show CSI:NY.

Summer 2008, Dr. Temple gets a call from an online friend, who up until then refused to tell him what she did for a living because she was afraid he would only like her for her job. All of that mystery flew out the window when her writing team's science advisor went on a three week vacation. On the phone was Dana Melton and she was reaching out because the creative writing team for CSY:NY needed some advice how to make blood evidence "rehydrate" after it was dried.

Hours were spend on the phone figuring this out. Seemed impossible but we did it. That scene is now locked into CSI:NY Season 4 Episode 4, titled "Time's Up." Right then, Dr. Temple discovered THE KEY to making any subject more riveting and engaging. The idea was solid, but lot more research had to be done to really test the idea in classroom settings to be sure.

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SEMPER AD MELIORA
"Always Toward Better"

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EDUNEERING INITIATIVE

CLASSIFIED LEARNING SCIENCE

WHAT YOUR CREDENTIAL PROGRAM DIDN'T TELL YOU.

OUR TARGET: 1 THE BRAIN

WIN THE BRAIN, WIN THE GAME

As a student of neuroscientist deeply immersed in the study of human brain development, the journey from birth to the age of 21 is a remarkable testament to the brain's incredible capacity for growth and adaptation. This period, often called the "critical window" of neuroplasticity, encompasses profound changes that lay the foundation for cognitive, emotional, and social functioning in adulthood. Interestingly, while the overarching trajectory of brain development is remarkably similar between men and women, subtle differences emerge, shaping unique behavioral patterns that reflect the intricate interplay between biology and experience.

The ages of 0 to 5 are the single most neuroplastic times in a human's life. The brain is completely open and accepting of new sensory input with no pre-existing cognitive filter, which makes learning more difficult. The brain exhibits extraordinary plasticity, allowing it to absorb vast amounts of information from the environment. Synaptic connections proliferate astonishingly, particularly in regions responsible for sensory processing and motor skills. During this phase, boys and girls are highly receptive to learning languages, recognizing faces, and mastering essential motor functions.

The Japanese are acutely aware of this stage. In practice, Japanese families do not introduce their children to any sort of formalized education until the age of 6. Until then, the child's job is to experience, explore, taste, witness, and do as many things as possible to bolster the child's experience base before entering school.

In contrast, US mothers toting their baby Einstein DVDs, which are probably some iPhone app by now, hoping their child will magically become more aware or simply more intelligent through on-screen experiences.

While some research exists that neural growth happens at a greater rate than stagnancy, we are learning excessive phone time has its devil to pay. We are seeing a generation of younglings addicted to the rapid-fire stimulation of modern designed media. For them, it seems like anything that isn't on a device is moving in slow motion, an intolerably slow, anxiety-inducing rate of presentation.

However, slight variations in the pace and manner of these developments begin to surface, hinting at the divergent paths that male and female brains may take. Society members with more financial resources can provide their children with a wealth of sensory experiences. Trips, sensory museums, the park, the ocean, the mountains, different foods, smells, surface temperatures, and textures, the brain eats this data up like an all-you-can-eat sensory buffet - and it's exhausting.

Have you ever been on a trip to a new place where every second is brand new, never-before-processed information? Then, go back to the hotel and think, "All I did was ride the bus around all day, and I'm exhausted!" Toddlers taking 2 naps a day might not seem all that surprising anymore. The brain ignores stimuli that aren't novel to reduce the amount of strain on the brain. It's not a choice. It's hard-wired into how the brain processes information. Sense, process, and keep (if important) or forget (dismiss because it's not interesting).

Much of the Adult brain's day-to-day operational neural wiring is done at age 16 ish. So, does the fact they have full control over their sympathetic nervous system makes them an adult, yes?

HA! No... Kids don't think like adults. They can't, like, actually neurologically cannot. The part of their brain that can think like an adult (the prefrontal cortex) is years away from full development. So, if forward-thinking logic isn't in control of the kids' decision-making algorithm, what is?



Created by FLUX.1-dev AI

Prompt: create an image of a brain that is located on a high-tech holographic blueprint paper. The image of the brain has parts labeled on it showing the different parts of the brain and how it draws in flows on sensory data to make sense of the world around.

EMOTIONAL CREATURES

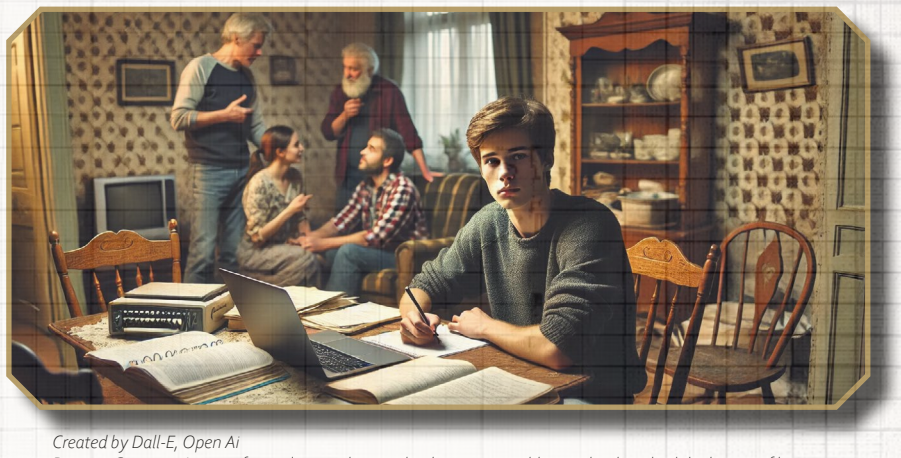
Anyone who has spent time around kids would agree that a child's sense of "logic" is a far departure from those of your garden-variety adult. Kids' decisions are almost entirely driven by how the results of a specific action might make them ***feel***. This 'do what feels good' ideology strongly connects to the Expectancy-value theory developed in the 1960s by Dr. Victor Vroom. Without the discourse in E-V theory, let's summarize it as follows:

Engagement in an activity will happen if the child (or anyone for that matter) believes that the effort invested will produce the results promised.

The engagement will continue if the person values the product being provided as a result of the effort.

In other words, a student might choose to do otherwise dull and boring work if the effort produces good grades in school. If getting good grades provides a highly valued product (money, praise, or the absence of a punishment) then the engagement will continue. Note that these are all "feel" reasons. The student must FEEL that the result of the effort is valuable. In cases where the student likes the adoration of the teacher, that also can contribute. Long-term planning tends not to be part of the students' decision-making algorithm. However, the parent's investment in the students' emotional conditioning about a future plan can spur on actions that seem like the actions of a pre-frontal cortex when, in fact, they are doing it because there is an emotional reward awaiting them.

Consider this: In the current state of instructional design, ask yourself: If you were in a child's mindset where the expectancy and value were not high, would you, personally, do the work put out in front of you? In other words, would you do the work even if you were uninterested, didn't see the point in it, and didn't feel you could do a very good job. Would you engage in the activity anyway?

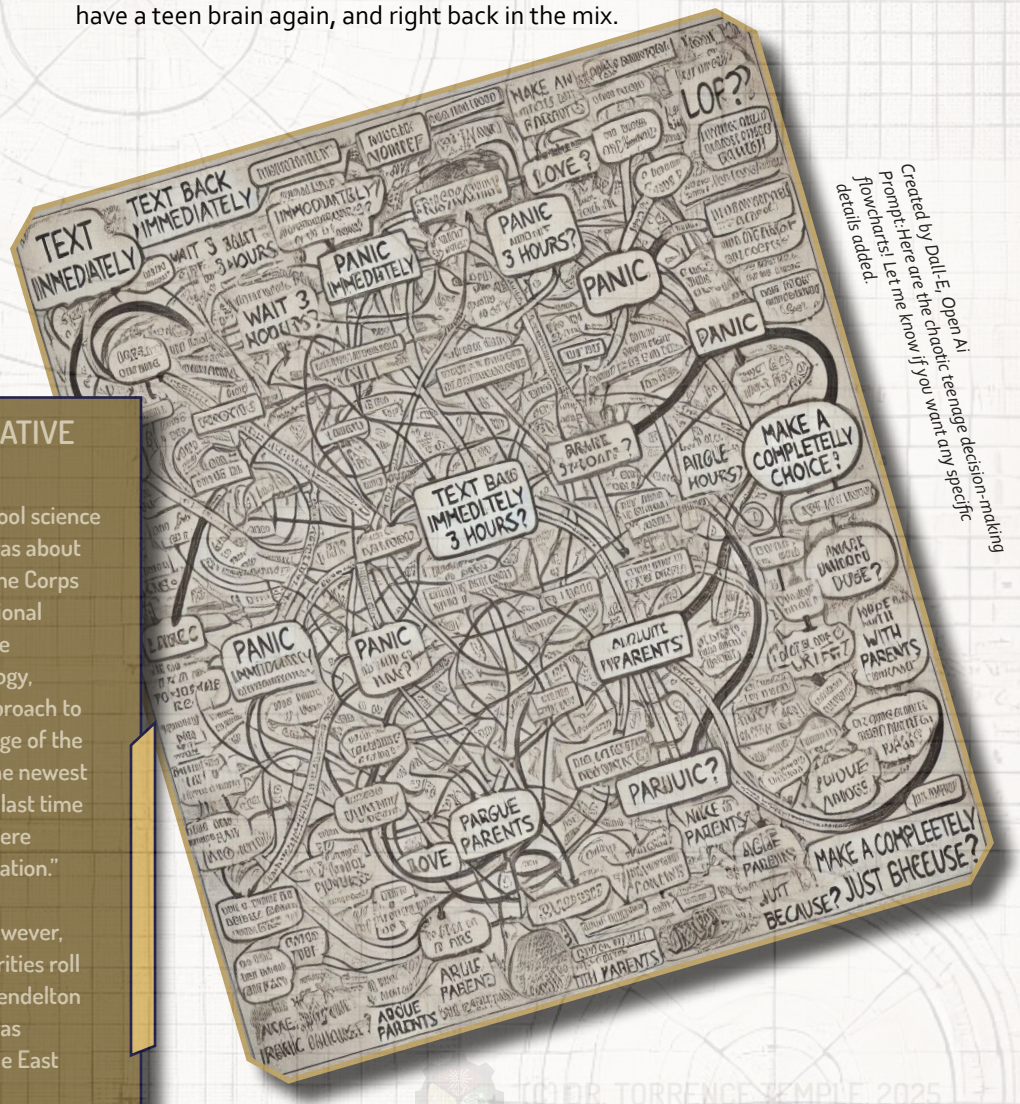


Created by Dall-E, Open Ai
Prompt: Create an Image of a student working at the dining room table on school work while the rest of his family is off in the other room talking. The surroundings should reflect a lower economic status. The image size format should be 3x wider than it is tall.

Let's flip that equation and consider what might happen if there are no parental influences or the cultural mindset of a family doesn't place any value on the outcome of effort on school work. What if there is almost a negative stigma against doing well and learning more than your parents, who happen to be immigrants from another country, a country that didn't value education because it was either extremely low quality or it was impossible to get?

Moreover, what if the student has a psychosocial construct such that the adults, specifically the male head of the family, must be honored, respected, and followed no matter how faulty, ridiculous, or flat-out wrong their logic might be? These are all real situations and lived conditions observed by students I taught in San Jacinto, California.

To adults, kids can make some absolutely insane, stupid, nonsensical decisions. Let's face it: adults can, too, but less frequently. Adults question the motivations of these choices, but I think the algorithm is pretty easy to understand. Adults simply forget what it was like not to have a functioning prefrontal cortex. Should they wish to relieve those conditions, they can drink to 7 alcoholic beverages in under 2 hours (Miao Et Al., 2021) the somatostatin interneurons effectively disconnect the PFC (prefrontal cortex), and bammo, you have a teen brain again, and right back in the mix.



Created by Dall-E, Open Ai
Prompt: Here are the chaotic teenage decision-making flowcharts! Let me know if you want any specific details added.

A BRIEF HISTORY OF THE EDUNEERING INITIATIVE

(Part II)

In 2012, after several award winning designs for middle school science and elementary school science, The Eduneering Initiative was about to be gift wrapped and presented to the United States Marine Corps as the new cost cutting and experience-expanding instructional design methodology for Camp Pendelton's Advanced Marine Education Center. The idea pulled together, mobile technology, interactive Omnidoc designs, and a thematic situational approach to learn. According to Capt. James Payne, senior office in charge of the instructional institution, this new system was going to be the newest envy of all of the other services. "Dr. Temple," he stated the last time he was seen in person, "you are about to become the premiere educational contractor to all four branches of military education."

Had that been the case. None of you would be here now. However, it was an election year and changes abound when new priorities roll into the White House. And change it did. The USMC Camp Pendelton underwent a major change in leadership and Capt. Payne was transferred to a different division of the Marine Corps on the East Coast. So close. So close...

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THE PREFRONTAL CORTEX (PFC)

The prefrontal cortex, which governs executive functions such as decision-making, impulse control, and planning, starts to mature. Here, gender differences become more pronounced. Research suggests that girls often develop language and fine motor skills slightly ahead of boys. Medical researchers have also noted that the prefrontal cortex in girls tends to mature faster in girls than in boys. According to the Marshfield Clinic (2016) girls' PFC can reach moderate maturity as early as 17, whereas the average male PFC isn't fully wired until his early 20s. Typically, This early advantage is mirrored in behaviors such as earlier verbal expression and more refined hand-eye coordination in girls than in their male counterparts. On the other hand, boys may exhibit heightened physical activity and spatial awareness, skills crucial for navigating their environments and engaging in exploratory play.

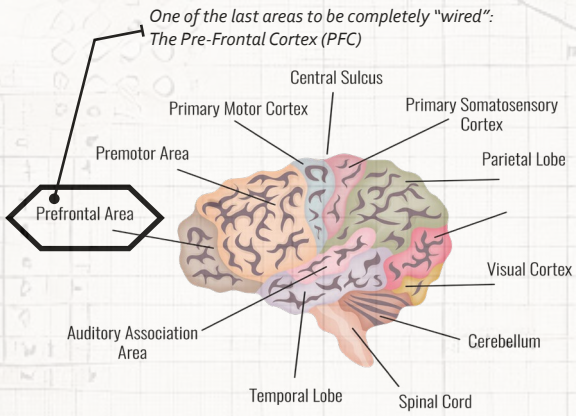
While research on this topic likely exists, I fall back on my first-hand exposure to watching a generation of boys and girls from various ethnic backgrounds pass through my doors. Within the context of my Chemistry classes, the girls had a higher overall GPA on average. While there were some very notable male standouts, some exceeding the performances of any of their female counterparts, girls generally scored better. Why? In my experience, it boils down to organization and priority. Girls between 13 - 16 years old consistently demonstrated more patience with note-taking, clarity of their work, care in their work, and a willingness to try again if they were off the mark. Boys were far more likely to do one-and-done assignments simply to check the box and finish the assignment. Ironically, many of these boys scored highest on the tests, contributed most in class, and had the best overall grasp of the content and how to apply it. To them, much of the busy work got in the way of engaging in the subject matter. When it came to doing labs, building projects, or engineering almost anything, the boys dominated. However, if you asked them to accompany their project with a written proposal or visual presentation, it would likely lag woefully behind the girls' attention to detail, written competency, and sense of design. When girls built (about 70% of the time or engineered projects they tended to put together attractive but outright tragic, like, laugh out loud and try and hide your face kinds of horrible.

During my dissertation defense, one of the audience members asked me during the Q&A time if there was a performance difference between boys and girls and if my chemistry program aided girls in this STEM area. I said it did because most of the program was about information gathering and organization abilities. I don't think there was anything necessarily special or attractive (though maybe there was never asked) to the girls, but I do think that the way the class was taught was clearly in their wheelhouse of neurocognitive and behavioral strengths. Every single notebook that I collected as an outstanding example, every single one of them, belonged to a female student.

Adolescence marks a pivotal period in brain development, characterized by dramatic changes in the limbic system and continued maturation of the prefrontal cortex. This stage is critical for developing identity, risk assessment, and emotional regulation. Here, the neurological differences between men and women become more intricate. Females generally experience earlier synaptic pruning in the prefrontal cortex, leading to more efficient neural pathways for tasks that require executive function and emotional regulation. This often results in women exhibiting greater emotional intelligence and resilience in managing stress and interpersonal relationships.



Created by Dall-E, Open Ai
Prompt: vertical aspect ratio show a boy and a girl standing together, both of high school the female has dark straight hair and put together in a conservative but fun attire. The boy has on sweats and a dirty rock band t-shirt and is acting immature and out of control. They are both located in a high school courtyard.



It's not that kids won't pick the "right" option. Successful students at younger ages choose to pay attention and do the work. However, that choice may be motivated by the emotional feedback from an important adult, avoidance of the pain that comes with NOT doing the work, or (in lesser numbers) because some form of emotional joy is generated by the content itself. In other words, the nature of the content (or how it's presented) has inherent emotional rewards for the student - why art gets so much more traction and engagement than math in elementary school.

A.R.A.H.
Click to hear ARAH's Commentary

In contrast, males typically experience a prolonged period of synaptic pruning in regions associated with spatial and mathematical reasoning. This extended development period can contribute to a heightened focus on abstract thinking and problem-solving skills. Behaviorally, this may manifest as increased risk-taking and a greater propensity for competitive and exploratory activities among young men, driven by the continued maturation of brain regions involved in reward processing and motivation.

The culmination of this developmental journey occurs in the early twenties when the brain reaches full maturity. By this age, the prefrontal cortex has fully developed, allowing for sophisticated planning, impulse control, and complex decision-making. While both men and women achieve this level of cognitive maturity, the pathways they traverse to get there often reflect their earlier developmental trajectories. With their earlier maturation of emotional and executive functions, women may demonstrate advanced skills in multitasking, emotional regulation, and social communication. By benefiting from extended development in spatial and problem-solving areas, men might excel in areas requiring strategic thinking and spatial navigation.

These neurological differences contribute to observable behavioral discrepancies between men and women, yet it is crucial to recognize that these are general trends rather than absolute rules. The influence of environment, education, and personal experiences significantly shape individual capabilities and behaviors. Moreover, the brain's plasticity ensures that both men and women can develop various skills throughout their lives, adapting to new challenges and opportunities.

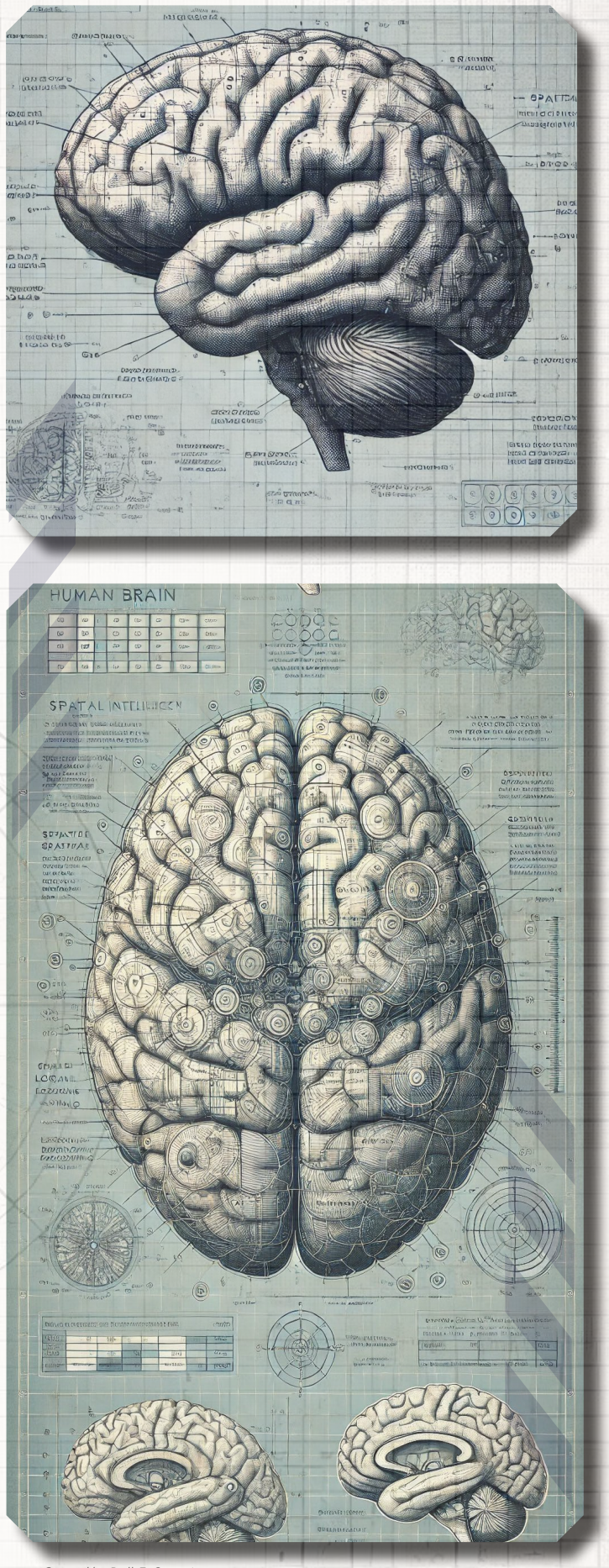
Reflecting on the neuroplastic periods of brain development, it becomes evident that the journey from birth to 22 years old is a dynamic interplay of biological processes and environmental influences. The nuanced differences between male and female brain development offer fascinating insights into how humans learn, interact, and grow. As we unravel the complexities of brain development, embracing these differences not as sources of division but as unique strengths that enrich our collective human experience is essential.

A PLEASURE SEEKING ORGAN

At its core, the brain is a pleasure-seeking organ that will lean into activities that provide the most significant amount of "pleasure" and avoid activities that result in discomfort. The PFC can override this need for gratification. However, with younger audiences, we consider that the PFC is under construction and has a limited role in the decision-making process. The highly influential neurochemistry of emotions then becomes a massive factor in the student's decision-making algorithms.

In the war on engagement and student attention, whatever provides the greatest positive feeling will win the students' attention. There is no shortage of pleasure-producing apps on students' cell phones, designed with a CIA psy-ops level of behavior manipulation. What does the mild-mannered classroom teacher have in their arsenal that could possibly compete with that kind of attention-nabbing firepower? Today's instructors are… If I may borrow the words of Marvel's Nick Fury from the Avengers movie, Teachers are…

"Hopelessly, hilariously, outgunned."



Created by Dall-E, Open Ai
Prompt: Create a vertical aspect ratio technical schematic of the brain on some light blue-ish gray engineering paper. The image should appear very technical and have one area of the brain that is highlighted, showing where boys', brains are wired for spacial intelligence and logic

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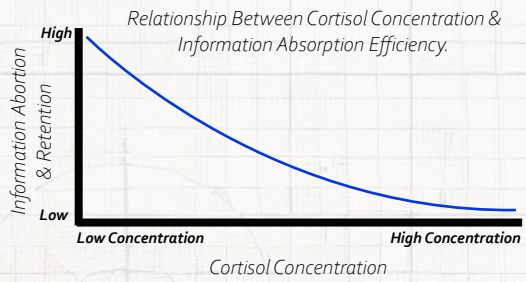
OUR TARGET: 2 NEUROCHEMISTRY, FEELINGS, & BEHAVIOR

Neurochemistry and behavior are hardwired in a dynamic, bidirectional relationship. Neurochemicals, such as neurotransmitters and hormones, play a crucial role in regulating mood, motivation, cognition, and overall behavior.

For instance, serotonin influences mood and social behavior, dopamine drives reward and pleasure, and cortisol manages stress responses. Imbalances or fluctuations in these neurochemicals can lead to changes in behavior, such as increased anxiety, heightened motivation, or altered mood states. All of these, if in balance, produce an ideal neurochemical cocktail for learning. However, that balance is often disturbed by outside sensory input or even derailed by our own actions and have no idea why. We can see students affected, and have no idea why if neurochemisty isn't part of the diagnostic discussion.

Our behaviors, experiences, and resulting behaviors can actively shape and modify neurochemical activity. Engaging in activities that bring joy or satisfaction can boost dopamine levels, reinforcing those behaviors and promoting a sense of well-being. Regular physical exercise can increase endorphin and serotonin levels, reduce stress, and improve mood. Additionally, chronic stress or negative behaviors can elevate cortisol levels, potentially leading to adverse effects on mental and physical health. People will often voluntarily put themselves into positions of extreme stress in the name of their career or for other personal reasons. These behaviors of engagement then trigger a cascade of cortisol-related neurochemical consequences.

If left unchecked or exposed for long durations of time, it can have long-lasting, if not permanent, effects on our brain and, consequently, our behavioral responses to specific external sensory input. PTSD would be a noteworthy example. Chronic social criticism, emotional abuse at home, and consequences of physical violence all carry with it a type of post-traumatic stress that disrupts that very carefully balanced mix of behavior-modifying neurotransmitters. For this reason, social-emotional learning (SEL, also known as CASEL) has risen to such importance in the modern classroom. Through the careful deployment of educational professionals, these programs help restore that neurochemical balance to help maximize learning.



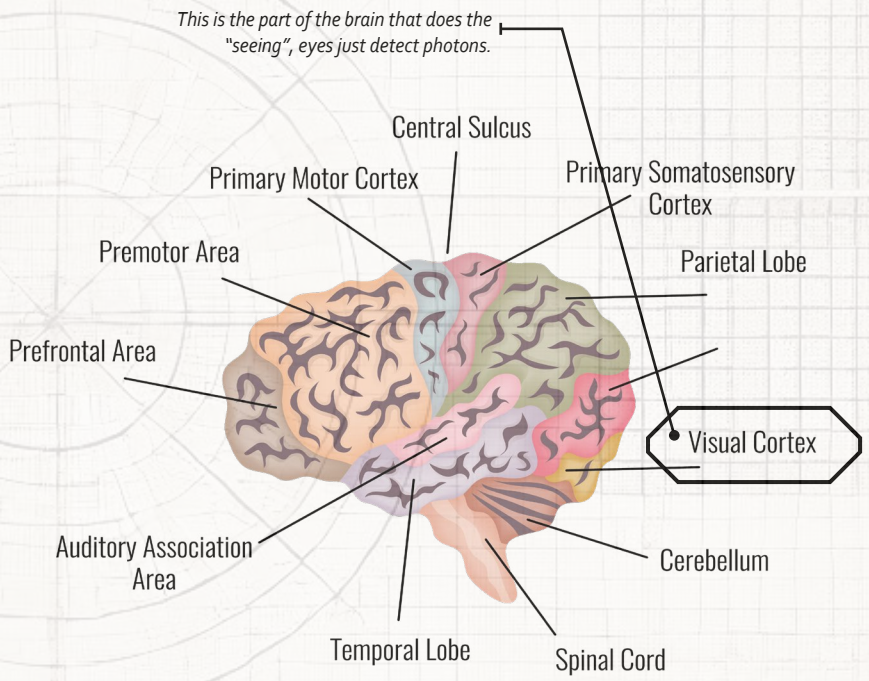
Now, for the sake of our discussion and to address the reasons and motivations behind the EduNeering Initiative, we will assume we are designing for students who, for the most part, are within a nominal stress range. Some days are higher; some days are lower, but within ranges that would not otherwise interfere with the instructional tactics we plan to deploy.

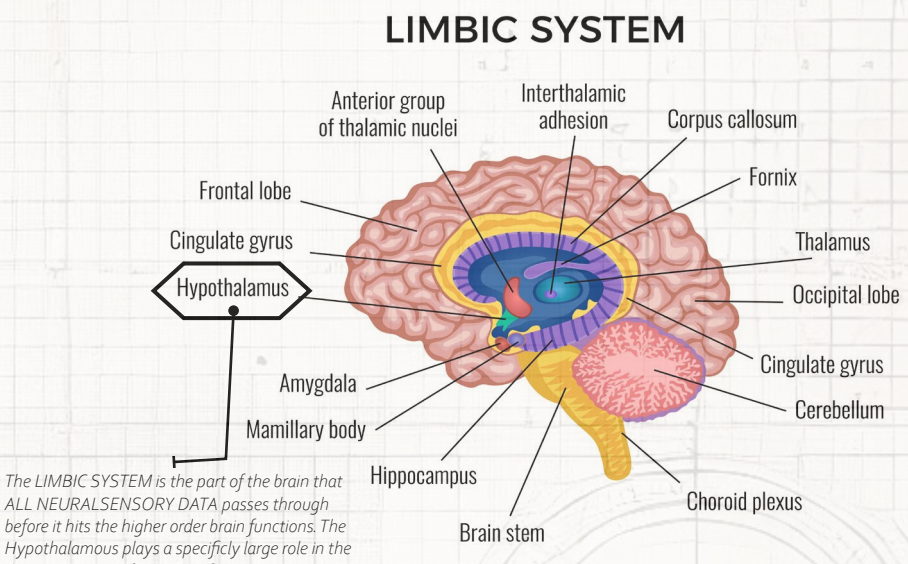
OK, with that said, here we go...

Every instructional skill, every teacher tactic, and every trick in the toolbox of instruction boils down to a single series of events:

Stage 1: Sensory Perception - Data Intake Through One's Senses

Before you can recognize, realize or react, the data from the outside world has to enter via electrochemical transmission into your brain. Your eyes are merely lenses. They don't actually see anything. Your visual cortex (located in occipital part of the brain) does all of the "seeing".





SEMPER AD MELIORA
"Always Toward Better"

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I find it rather cartoonish that you actually "see" from the back of your head, but it's true. Consider those who suffer from hallucinations. There are objects that they swear they see, yet are not physically present. Clearly there are no photons reaching the retinal nerve from those objects… because there are no objects there to reflect those photons! The brain mixes the input data with imagined data and then sends it to the frontal lobe along with a slew of data from other parts of the brain that create meaning for what is being seen.

Sometimes you see things before you recognize them. Ever see something out of the corner of your eye that causes you to snap your head back and you don't know why until you see what it is? For example, you're walking through a crowded passage way between the Star Wars Outlands (at Disneyland in California) chowing down some food and suddenly, your head snaps back to see someone walk past you. It's not until after you have a second to process the data that you realize it was your best friend you lost track of after high school graduation. How did you know to look, if you didn't know? Solid question!

While the exact mechanism is still up for debate, the working theory suggests this reflects happens because the raw data that comes through your eyes and is process by the thalamus before it reaches the visual cortex. The thalamus is a sort of sorting station for neurosensory data. Interestingly, among its wide variety of specialized areas it has two that specifically deal with memory (anterior nucleus) and the section that is high connected to emotional behavior and emotional memories (dorsomedial nucleus). Knowing this, our example might make far more sense. Your sub-conscious brain actually did see your best friend before you saw (formed a conscious awareness of) your best friend. This reflex might also suggest a reason why we have a tendency to have our attention so easily directed towards emotionally stimulating external data. It is the same driving force behind all the students in the room will break attention from the teacher and watch the classroom door open - *omg that was frustrating.*

Stage 2: Sensory Primary Filter (Limbic System)

The thalamus is tightly connected to the limbic system and before any of that data reaches the visual cortex, it's examined up against what I call "The Big Three."



TERMINATE LIFE: Can the data received through my senses result in my death?

Example: *Walking in the forest and coming across a massive black panther and her cubs.*

SUSTAIN LIFE: Finding a great source of food, water, drink, or another resource that promotes safety and a longer life.

Example: *Your dehydrated and very thirsty - your brain will hijack your attention to focus on anything that might look like a source of water.*

REPRODUCE LIFE: Is the sensory data producing feedback that would lead to a potential reproduction event?

Example: *When your doing something and all of a sudden you find your self looking up to find an attractive person near you your brain snaps your attention to them. Not because your a cheater at heart! That reflex is hard-wired into parts of your brain.*

Typically if these sensory input is strong enough it may trigger one of these responses:

Fight: Engage with or confront the threat feeling confident engaging the stimulus will result in minimal or acceptable losses.

Flight: Engagement with the stimulus would result in unacceptable losses and escape is the only means of maintaining physical and emotional equilibriums.

Freeze: Unconscious reflex resulting from the sensory data blowing the mind out past rational thought on both the sub-conscious and conscious levels. Quite literally, the brain *'cannot even'* register what it's looking at and shuts everything else off until the threat level can be determined.



Click to hear ARAH's Commentary

Regardless, whatever happens will be stored in the long term memory as "this is what I need to do next time" or "this is what NOT to do next time." The sensory data associated with the results of the engagement will be lodged into the back of your mind. The more intense the emotional or physical response the faster and more likely that collection of sensory data will be remembered forever.

Intense emotional response ------->	Immediate long-term storage
Moderate emotional response ---->	Might keep depending on other factors
Low emotional response ---------->	Immediately disregard, forget

Basically, if you don't have an emotional response to new sensory data, the brain will often toss it aside as unimportant and you forget about it. Dr. John Medina in his book "Brain Rules" called it frequency blindness and we all have it.

Emotions play an evolutionary role in keeping us alive. Consider the sorts of sensory events that create emotions. Are they not mostly (if not all) centered around one of these three life-propagating criteria? Dr. John Media, author of *Mind Rules*, wrote extensively discussing how feelings were the guiding light to survival. When they had a "Bad feeling about this" those notions were not ignored.

Your eyes, ears, touch, and other senses transmit data; that's all they do. It's your brain that creates meaning for that sensory input. Some of these experiences (and the associated sensory data) create events that propagate emotional responses once your brain has subconsciously run them through the "Big Three." One could go as far as saying that emotions help govern memory or, at the very least, can play a distinct role in determining what sensory data is worth storing in the "DO NOT EVER FORGET" file of your brain's long-term memory.

Let's conduct a thought experiment and consider each of these situations and see if you can guess which of these events are likely to be immediately stored in long-term memory.

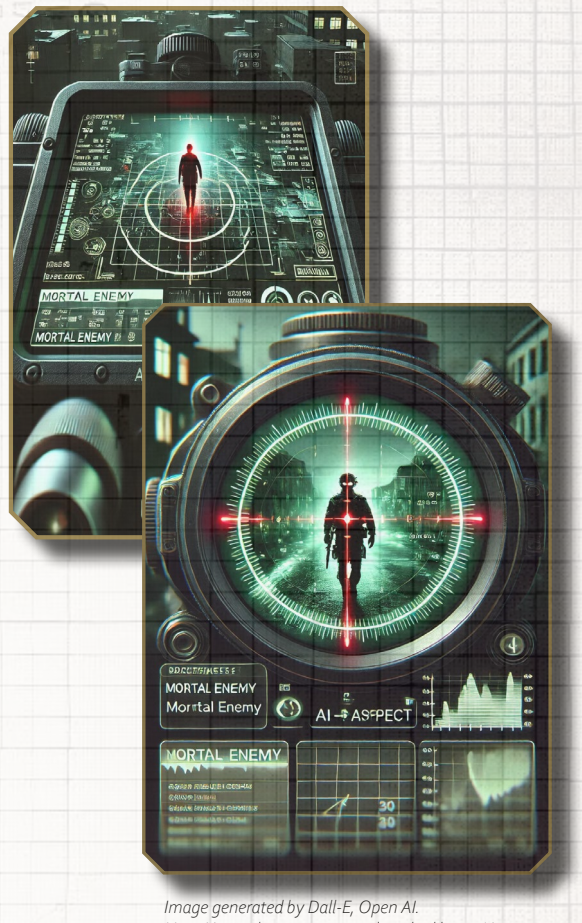


Image generated by Dall-E, Open AI.
Note: Your sub-conscious mind is a lot like an AI running in the background constantly scanning sensory data for the "big three" or other emotionally important sensory information.

Sensory data options:

[1] Your ex's face - who was your first love

[2] Your first kiss

[3] A person bumps into you in a crowded store

[4] Having a gun pulled on you

[5] A beautiful person

[6] A beautiful person that smiles at you

[7] A really good meal

[8] A really good meal when food is scarce

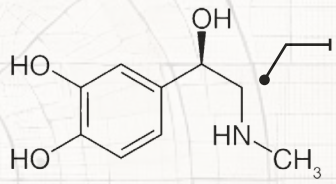
[9] A fact that was supposed to be the answer on a worksheet

[10] A teacher lecture on a topic that only contains moderate interest

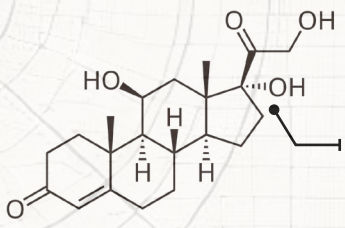
[11] A part of a movie that you nearly peed yourself, you laughed so hard

[12] The details of a commercial seen from your bed before falling asleep

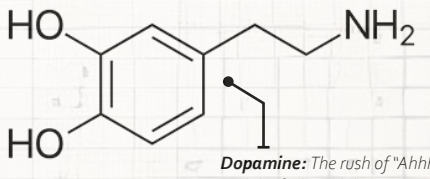
[13] A TikTok video that makes you question what was real in this world



Epinepherine (Adrenaline): *The feeling of hightened awareness, attention is hyper-focused, heart rate elevates, blood pressure rises. This chemical is released in high risk / reward envirnoments, and is produced in the adrenal glands which produces a sympathetic analog called norepinepherine.*

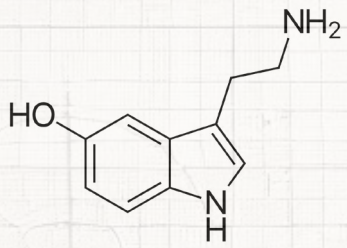


Cortisol: *In short bursts, this chemical provides energy and a motivation to take action. This chemical, also produced in the adrenal glands. However, too much cortisol in your bloodstream from constent unceasing stress will short circuit your mind and your ability to remember even simple things.*



Dopamine: *The rush of "Ahhh" and the feel good that comes from surviving high rish events produces this memory enhancing chemical compound so you don't forget what just got you free from some seriously negative consequences.*

And yes, asking a girl out that you really like COUNTS as a high risk situation.



Serotonin: *Plays a key role in how the brain processes, stores, and recalls information, especially in learning and memory. Finding the right balance of serotonin—neither too high nor too low—is critical because serotonin influences synaptic plasticity, emotional regulation, and attention, all of which are essential for memory formation. Too much or too little of this hormone can wreck havoc on how a person feels about new experiences and the willingness to engage in learning activities.*

If we apply the notion that emotions play a very significant role in long-term memory, which of these would likely and immediately be something that you remember forever. Either because of highly positive emotional responses or highly negative, the result is the same. Here are the events that will likely never forget:

1



The pain caused by breaking up with your first love would burn the sensory data of her face into your brain forever. So much so that if you scanned a crowd of a hundred people, your brain would likely pick her face out almost immediately.

2



The first kiss from someone you find attractive (or not?) is a sensory introduction to one of the Big Three. It's definitely never going to be forgotten.

4



Guns = death as far as the limbic system of your brain is concerned. A gun being pulled on you with the intent to use absolutely is one of the Big Three.

8



When food is plentiful, it's likely not to be remembered. However, w**hen good food is scarce**, experiencing it creates a heightened emotional response connected to survival. It's going to be remembered.

11



The **emotion that is responsible for laughter is a powerful one** due to its underpinning pre-conditions. You have to be in a place where you like your life is safe physically and emotionally. No one busts up laughing when they have a knife in their back and being told to hand over their wallet. Ask any comedian why there's a two-drink minimum at a comedy show. Comfort, ease, and safety are the precursors to laughter. Being safe leans into the propagation of life, one of the Big Three.

13



Your mind cannot distinguish between imagined pain and physical pain. To the brain, it's the same. That also includes cognitive dissonance, which is the pain that comes from your intuition being rudely interrupted by new incoming data. When your mind has received data that shakes the foundations of your identity and worldview, the dissonance it creates is HUGE and creates a correspondingly large emotional set of feelings. Mental existential distress can be seen as life-threatening. As such, it connects to the Big Three.

Pain is a very powerful influencer and can have a substantial emotional impact on an individual. Pain is, as the brain sees it, one step closer to death. So, any sensory data that is associated with pain is immediately stored in long-term memory. But pain, no matter how bad, all boils down to chemistry, as the neurochemical cascades produce these feelings. As a matter of biology, it's fair to point out that all feelings result from chemistry. Turns out your feelings can also be manipulated through external chemistry AND external sensory input. Does that make the experience any less real or is it just chemistry manipulating your behavior?

Scan here or click: *Dr. Temple shares his experiences with how chemicals affect the brain's perceptions of pleasure, pain, and what's real vs what isn't. There's a reason why drugs are so popular and some are so good, they have to be banned.*

Scan here: *Dr. Temple shares his experiences with how students' off-task behavior can often be explained by pleasure seeking and emotionally gradtifying decision making process..*

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MEMORY THROUGH ALTERNATIVE MEANS?

Not every sensory input has emotional value, so how do we remember anything? Using emotional triggers helps embed sensory data for long periods of time. Still, it's not the only way we retain that data. As a matter of instructional practice, emotion is rarely used in education. Instead, we lean on other means of pushing sensory data into long-term memory. When procedural, we rely on repetition - often called "Rote learning" and when teaching new concepts that can be supported by prior experiences, education land calls it scaffolding.

In neuroscience, the term most analogous to scaffolding in education is neural scaffolding or experience-dependent plasticity. These concepts refer to the brain's ability to build upon existing neural networks and experiences to acquire new skills and knowledge more effectively. Below are some related terms and explanations:

Hebbian Learning: ("Cells that fire together, wire together")
This principle describes how repeated and simultaneous activation of neurons strengthens the connections between them. Prior neural pathways formed through earlier experiences make it easier for the brain to integrate new but related information.

For instance, seeing a task done while also using your hands (tactile sensory) to manipulate the object to achieve the learned task.

Synaptic Plasticity: This refers to the brain's ability to modify synaptic connections based on experience. Prior experiences create stronger or more efficient pathways, which act as a scaffold for new learning.

For instance, a student is learning about the revolutionary war in the US after having visited Philadelphia and Boston the year before on a vacation. Suddenly the locations the student saw will connect to the new information about the events taken place there. (For this reason, field trips were super valuable).

Schema Development: Neuroscientists sometimes refer to the brain's organization of prior knowledge into schema. These schema act as frameworks that allow the brain to integrate and make sense of new information, based on internalized sensory experiences.

For Instance, the neural frame work that gives rise to our behavior biases. If our experiences with certain events, people or places are consistent, anything that contains similar neuro-sensory data will likely be filed under a specific schema to accelerate the processing, understanding, and evaluation of that data in terms of the big three filters.

Predictive Coding: The brain uses existing models of the world (built through prior experience) to predict incoming sensory information. Learning happens when predictions are adjusted based on new inputs, effectively scaffolding new knowledge on prior expectations.

For instance, think of autocorrect for your brain. That's basically about it. This is the part of the brain that jumps to conclusions.

Long-Term Potentiation: A biological mechanism underlying learning and memory, where repeated stimulation of neural pathways makes them stronger and more responsive over time, facilitating the assimilation of new, related information.

For instance, imagine a university built some new building but were not sure about where to put the cement walkways. Before taking any action, the head of psychology suggest to just let the students determine by watching them walk. As they marched through the grass over and over your path to cement will be revealed.

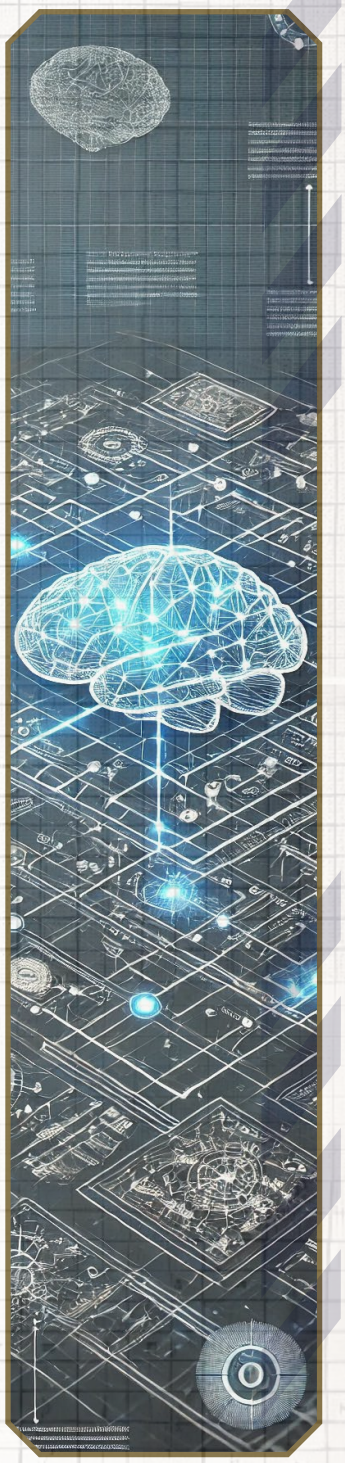


Image from Dall-E, Open Ai Prompt: Vertical aspect ratio if a high-tech flowchart blue print of the brain and how it remembers information.

So much of what we've designed in our education system was built off of Long-term Potentiation. Despite the lashing it gets publicly, its still a perfectly acceptable way of learning certain things. Frankly, if we did more of this with basic math facts I think the nation as a whole would be better off for it.

Scan here or click: *Unfortunate combination of these pathways made a student very uncomfortable around me. Despite my best efforts, the neurosensory elements of the students' past experiences were too deeply entrenched to be altered.*

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Image created by Dall-E, Open Ai
Prompt: Create a square image that shows a middle school-age classroom where an African American male is helping a group of middle school-aged kids with some math problems. The kids are joyful to be receiving help from this great teacher.

Mundane tasks that allow us to burn behavioral neural pathways into our brains, like walking a path a hundred times through a grass-covered field to leave a path of dead grass demonstrating the position of the path. However, engaging in such lackluster activities might be fundamentally emotionally driven, and not because of the work but because of the people that expect outcomes from that work.

For example, if your parents expect you to score well and get good grades. Letting them down produces a very negative feeling, which is something that the brain tends to avoid if possible. Maybe there's a teacher who has provided a sense of obligation and believes in you to produce great work. That emotional obligation motivates the student to traverse the otherwise uninteresting work. Does it make sense now why districts push "positive student-teacher relationships" and "building relationships with the students?" Yeah, it kinda does...

MEMORY THROUGH COMPETITION TURNS OUT TO BE FLEETING

A little story about a dissertation defense I watched just before I presented my own. The topic was, if memory served, on the Kahoot quizzing platform and use in retention for biology terminology. I am unsure if any other online competition software was in the study. The question centered on the improvement of biology quiz scores through the use of Kahoot. It was a simple, almost embarrassingly simple premise. I was a little shocked this simple mono-dimensional experiment would pass for a doctoral dissertation at the University with one of the best educational technology programs in the world. She presented her findings and walked through the statistical analysis, presenting her paired-t tests as mathematical proof. For the rest of the story to make sense, it's important to know a couple of things about statistics.

Paired t-tests ONLY show correlation, not causality.
For the results to mean anything, the 'p' value or the "alpha" has to be under 0.05.

For any statistical result to be considered "statistically significant," the value associated with chance error or the results occurring because of a freak accident is less than 5% (or 0.05). Anything over that suggests that while you have results that suggest something, there's enough possible error in the experiment to bring the results into question. Her alpha for 4 of the 5 experimental trials was 0.59. Close, but... not close enough? Her data suggested that while there was some evidence to suggest that using Kahoot as a remediation or instructional tool was useful, there's some looming doubt.

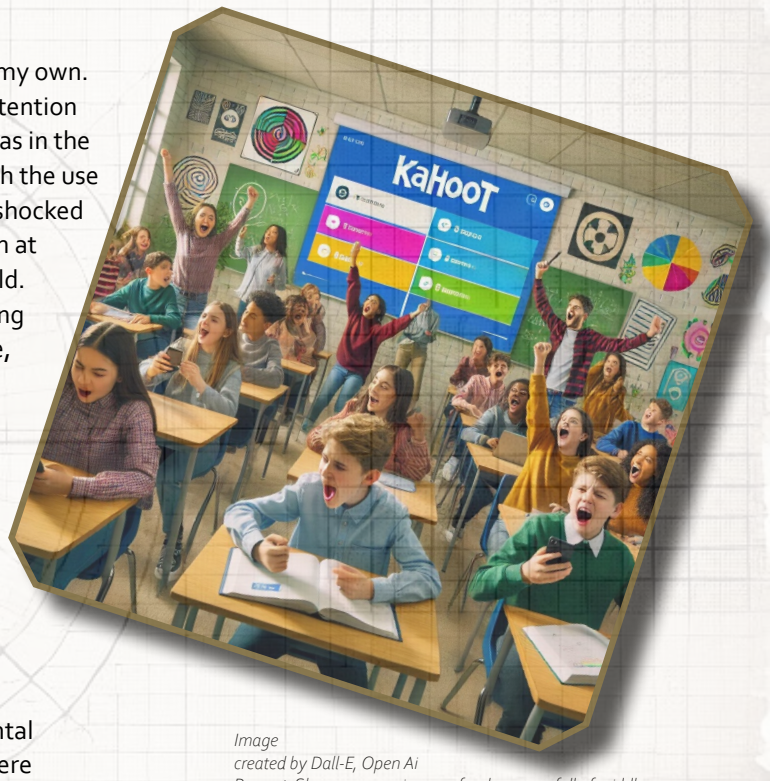


Image created by Dall-E, Open Ai
Prompt: Show a square image of a classroom full of middle school kids doing a Kahoot challenge on their phones. Show half of them yelling and getting excited, some are disappointed, and some show that they don't have a clue on their faces.

From anecdotal experience, my experience with Kahoot was very similar. I deployed Kahoot as a tool to review assessment material right before the assessment was given. Yeah, it's maybe a little too soft, but the kids I had at the time had the study habits of a blind sloth, meaning... there weren't any. Study for a quiz? What does that even mean? (More on that when we talk about psycho-social programming).

I ultimately discovered that the mean assessment scores changed very little whether I used Kahoot or not. Perhaps this was due to how I was using it. I executed the Kahoot as a class-wide challenge, which was a solid way to induce competition and engage the majority of the class. Despite encouraging everyone to join, I noticed it was the majority, not the entire class. Levels of effort varied wildly from complete disengagement to absolute obsession. I noted that the students whose grades were already in the 'tank' did not engage with the Kahoot to any significant degree or at least enough to improve their grades. I also noted that students who would ordinarily be competitive tended to give up and disengage if they missed two or more questions or were no longer in the top 5. The emotional reconciliation then becomes, "Well, I didn't win because I just stop playing." Competition-based games don't celebrate the process as much as they do the final result.

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Some of these Kahoot sessions were quite intense emotionally. As the gap narrowed between three or more students, the drama of who would pull it out at the end became the focus, not the content of the questions being asked. The very same questions would be asked in the assessment just minutes later.

My takeaway: Kahoot competitions (or any other competition device) as a means to evoke long-term memory is not an efficient use of the tool. Very quickly, the interest can shift, and the expectancy of the work becomes much less valuable when students realize they can't win, so they don't try. I think they find it easier on their ego if they willfully give up rather than really try and fail. In the previous case, power and control were in their hands. "I could have won but didn't want to play." They retain their sense of self, as misdirected as it might be. Meanwhile, very little content enters even the short-term memory because the drama centers around the competition and the need to win. I would very much like to hear from the readers about their experiences with online competition tools and their effect on memory.



Feel free to share your thoughts

SCAN ME

THE CULTURE CLUB

It's a club you belong to, whether you know it or not. Everyone belongs to a culture that forges how you think, act, respond, and value the elements of life. Business author Richard Lewis (2012) called it "psycho-social programming." It's the operating system that your mind runs every other learned program through and tends to define how you interact with other programs and hardware, metaphorically speaking. Thinking of culture differently, one's psycho-social programming might be like the soil in which an individual plant might thrive. As soil conditions drastically influence the plant's potential, form, and longevity, culture can play the same role in human development.

Neuroscientists and psychologists alike have long studied how cultural influences become biologically embedded in the brain, wiring neural pathways that subsequently guide behavior and decision-making. By examining the interplay between culture, identity formation, and the brain's neurological architecture, we can better understand how individuals are molded by the societies they inhabit, ultimately unlocking the secret design code that speaks to people at a foundational level.

CULTURE AND IDENTITY FORMATION

"Human beings are cultural animals," writes psychologist Roy Baumeister in The Cultural Animal: Human Nature, Meaning, and Social Life (2005). Culture provides the social framework—language, traditions, values, and shared symbols—that guide an individual's understanding of who they are. From the moment of birth, infants are immersed in a cultural context that determines how they are nurtured, taught, and disciplined. A child born into a collectivist culture, such as Japan, may learn early on to prioritize group harmony and interdependence. Conversely, a child in an individualistic culture, like the United States, might internalize values of independence and self-expression.

As children grow, they absorb cultural norms through a process known as enculturation. This influences their identity or their stories about who they are. Psychologist Erik Erikson's theory of psychosocial development emphasizes identity as a key task during adolescence, a stage when individuals experiment with different roles and societal expectations to carve out a coherent sense of self. Importantly, this identity is not formed in a vacuum but is deeply influenced by cultural scripts and expectations.



Image created by Dall-E, Open Ai
Prompt: Create an image that shows culture influencing people's minds. Since this is true for all racial groups... let's have various culture groups included in the image.

Curious: Given the lack of any specific race, I'm curious why OpenAi chose to put the white guy in the front...

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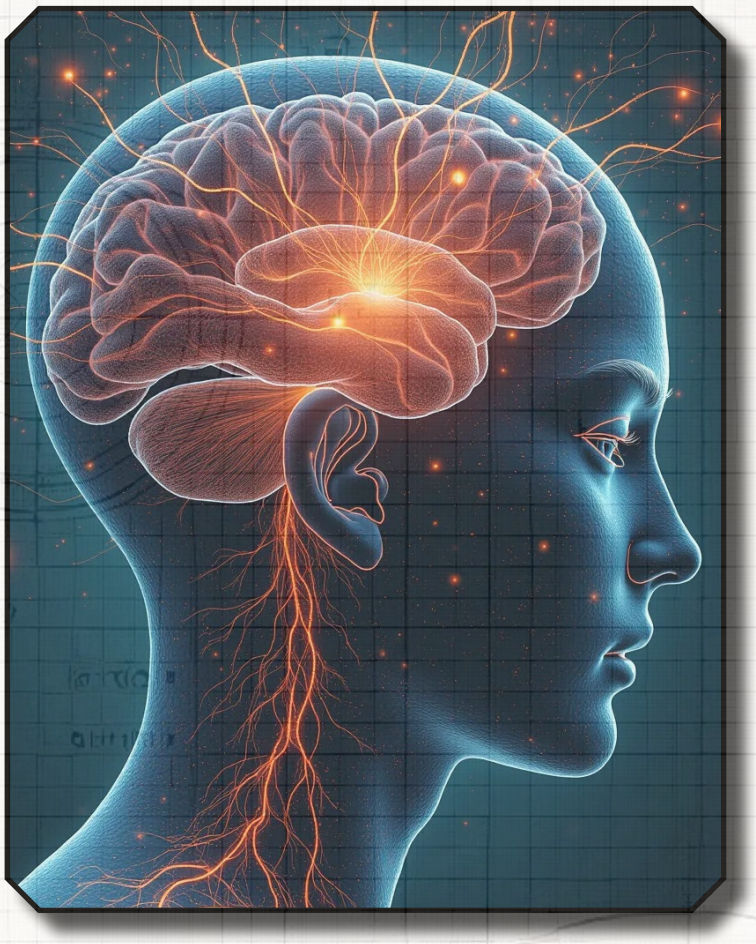


Image Created by Flux.1-dev, Huggingface.com
Prompt: Create an image that represents how the neurological wiring in the brain + external experiences forge the identity of the individual.

IDENTITY AND THE BRAIN: NEUROLOGICAL WIRING

Cultural identity, once internalized, leaves a physical imprint on the brain. The field of cultural neuroscience, led by scholars like Shinobu Kitayama and Hazel Rose Markus (2014), explores how culture shapes brain structures and activity. For instance, Kitayama's research reveals that individuals from collectivist cultures exhibit greater neural activation in regions associated with social cognition, such as the medial prefrontal cortex, when thinking about others. This suggests that cultural identity affects how the brain prioritizes information, reinforcing patterns of thought aligned with cultural values.

On a broader scale, the brain's neuroplasticity—the ability to reorganize itself by forming new neural connections—allows cultural influences to shape neural circuits. For example, language, a core cultural component, wires the brain differently depending on linguistic structure. Studies by neuroscientist Lera Boroditsky (2000) show that speakers of languages with different temporal structures perceive time differently, a phenomenon that highlights how culture and identity shape neural pathways.

Moreover, cultural norms around emotions also influence brain wiring. In cultures that value emotional restraint, such as many East Asian societies, individuals may develop heightened activity in the prefrontal cortex, associated with emotional regulation. In contrast, cultures encouraging emotional expressiveness may see stronger connectivity in regions like the amygdala, which processes emotions.

BEHAVIOR AND THE BRAIN'S CULTURAL WIRING

These culturally wired neural pathways profoundly influence behavior (Lewis, 2012). An individual's decisions, habits, and interpersonal interactions are guided by the neural frameworks shaped by their cultural identity. For example, someone from a collectivist culture may instinctively seek consensus in group settings due to reinforced pathways in the brain's social cognition regions. Meanwhile, an individual from an individualistically-minded culture may default to self-reliant problem-solving behaviors. There could be a connection made here between cultures that Lewis referred to as ***Linear*** and the socially supportive of behaviors that promoted productivity, self-governance, timeliness, and legality over trust. In contrast, ***multi-active*** nations would promote a more nuanced feelings-based set of behaviors where how someone felt about a particular subject was more valued over the facts of the matter.

Behavioral patterns also emerge in moral reasoning, a domain deeply influenced by cultural identity. Psychologist Jonathan Haidt, in *The Righteous Mind: Why Good People Are Divided by Politics and Religion (2012)*, explains how different cultures emphasize distinct moral foundations, such as loyalty, authority, or fairness. These values, wired into neural networks through repeated exposure and reinforcement, shape how individuals judge right from wrong. The issue is not about the political or religious views themselves. The conflict arises when one's identity, of which politics and religion are deeply woven, is questioned and challenged. Culture helps form one's identity.



Image Created by Flux.1-dev, Huggingface.com
Prompt: Create a more realistic image that represents how the cultural experiences from family & community can have on the formation of a person's identity

> *Identity is who and what you believe you are independent of any facts presented outside of the person's foundational understanding of their psycho-social programming. The perception of your identity is your reality.*

It's an emotional conclusion, and brushing aside one person's psycho-social programming in favor of another will ALWAYS breed internal or external conflict likely both.

In the long term, cultural wiring can influence resilience, adaptability, and mental health. Neuroscientific research indicates that the mismatch between one's cultural identity and societal expectations—such as in immigrants experiencing acculturation stress—can lead to dysregulation in brain areas tied to stress responses, such as the hypothalamus-pituitary-adrenal (HPA) axis.

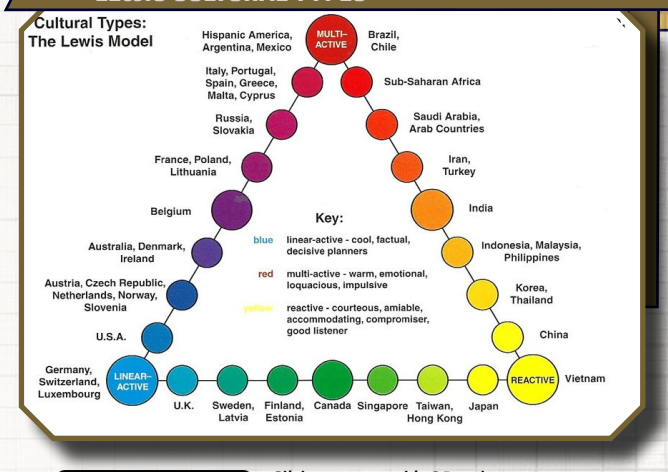
HOW TO UTILIZE YOUR UNDERSTANDING OF CULTURE.

The diagram below references Richard Lewis's (2012) findings from 26 years of living in different countries worldwide. In doing so, he gathered a collective understanding of the behaviors that are akin to those of different countries around the world.

The chart functions on a 3-axis gradient, with Germany on one polar side, Mexico on another, and Vietnam on one of the others. Notice that most countries are positioned somewhere between two poles depending on their global geography and corresponding observed behaviors.

Understandably, people in China would share more cultural behaviors with Vietnam and Mexico. However, proximity is only one part of the equation. The other is the country's immigration history. In reality, the US and Mexico are neighbors, but on the Lewis Chart, they are at opposite ends of the behavior table. As the Hispanic population grows, the more America's current position will move toward the top of the 3-pole cultural triad (becoming more multi-active). Many academically minded people have worried just how much that movement could jeopardize the economy.

LEWIS CULTURAL TYPES



Click on or scan this QR code *to visit the Richard Lewis Content Site where his discussions about psychosocial behaviors are discussed and expanded upon.*

Click or scan the QR Code *to* ***hear*** *DrT talk about his experiences with student & community culture invervened with commonly held perceptions of normal classroom operations.*

One of the pillars of modern education encourages educators to meet the students where they are to be successful. One powerful example of this concept is talked about in the video attached to the previous QR code. Take a listen, and you'll understand how a student's psycho-social programming was addressed.

When my students left for the day, according to most, school was over, and their time and resources now belonged to the family. Most of my Hispanic secondary students, whose day at school ends at 3:00 PM, won't likely do anything school-related until after 9 or 10 o'clock at night when sports are over, parents are off to bed, and no one else had demands on their time for chores or other house related tasks. If you recall what you learned about emotional memory, and not much happens in a classroom that is emotionally relevant, few of the academic details from the school day were remembered (according to dozens of informal student interviews).

Students would frequently share their schedules as well as their frustrations with forgetting to do assignments or not being able to recall how to do the work from class once family needs have subsided.



Image Source: Dall-e, OpenAi.
Prompt: Create a 9:16 horizontal split image of a Hispanic middle school student who comes home with his backpack on and is thinking about school - show a thought bubble with a picture of school in it. Then show the second part of the image shows his Hispanic mother swatting that image apart with her hands to show the student that when he's at home he should only think about needs of the family.

Now 10 hours later, with everything largely forgotten, what's the student to do? Call a friend, guess what to do? Take the zero, or simply cheat the next day at school. The inability for students to know what to do once they had time to do the work represented a major barrier to success.

The use of Instagram for cheating on math, science, or anything else became prolific school-wide. In the middle of confronting a student about this Insta-cheating network, the student said, "I would not be shocked if, like, only 15 people in the whole grade did the work and the rest just copied Insta." Well, I was a little shocked.

To clarify, the number of students who copied the classwork was substantial; it wasn't everyone and often varied depending on the student, what sort of corner they had painted themselves into, and the level of desperation the student felt to complete the work. According to the students I interviewed, the more strict the teacher was the with deadlines, the more the students tended to cheat. Not that they couldn't do the work, but they often struggled to have it done on time due to complications with time outside of school to get the work done. I was told that these particular students didn't have a lot of influence over how their time was spent outside of school. I questioned the narrative here, until I witnessed smart able-minded kids struggled with deadlines.

Was the students' lack of knowing what to do or how to do the actual issue? Was it just sheer laziness? One might be tempted to think that the reason was the latter, but most students interviewed stated they would do the homework had they known what to do and how to do it.

The not all the students replied like this, but there were far too many to ignore. Enough so, that I began to assess the technologies these kids had at their disposal. Since the high school had a 1:1 chromebook program, I began to feel the day of the Omnidoc was upon us. As we will discuss later, the Omnidoc was the platform that allowed students to acquire everything needed to complete the work, re-live the class content, and get the job done, assuming the task expectancy was high enough.

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OUR TARGET: 3 USE OF COGNITIVE DISSONANCE

CIA INTERROGATION TOOL TURNED HOLLYWOOD HOOK

A little brain hack: If you want to elicit information out of someone who thinks they are smart, toss out a statement that's overtly wrong. The need to correct the statement in certain personality types is SO strong that they cannot help themselves and blurt out information they had no intention of providing. This psychological discomfort and need to resolve reason and balance to one's perception of the world is referred to as *cognitive dissonance.*

Earlier in this section, the discussion focused on the emotional nature of learning. Emotions can cause sensory events to immediately and permanently become part of a student's long-term memory, which is why students want to learn something or do not want to get involved. Kids are emotional creatures and highly prone to the emotional lure of curiosity, and very few things bait curiosity in kids (or adults, for that matter) than what psychologists call cognitive dissonance.

Definition: *Cognitive dissonance*, simply put, occurs when your senses are providing data that your intuition can't accept.

Example 1: A parent looks outside and sees her perfectly well-behaved son, mama's little boy, bully a kid off his bike just outside her house.

Example 2: You see fire burning on top of an ice cube.

Example 3: A man breaks into a police precinct and confesses to a murder. He's bloodied, weak, and dying. Just before he dies, he whispers to the detective that the murder won't happen until tomorrow. His eyes close, and dies right there on the floor of the police station. (The actual plot to a CSI:NY storyline - S:4 Ep: 4 "*Times Up*")



Image Source: Dall-e, OpenAI.
Prompt: Create a square image of a high school aged female arguing with a CIA agent in an interrogation room. There is another agent that is looking at the high school aged girl and is writing on a yellow steno pad.



Click to hear ARAH's Commentary

Each of those situations was derived from a real story or situation I helped engineer. Well, not the murder example that came from a CSI:NY episode I helped write back in 2008. Each one may resonate with you differently, but has something in common. Challenge your sensory data with what your intuition and belief systems are:

Example 1: *Social Dissonance* — I've lost track of the number of times parents swear up one side and down the other that their kid is completely innocent and devoid of the depravities of lesser people. Of course, to have their entire world come crashing down when they see Daddy's little angel throwing down legit stripper-style dance moves at the 8th-grade winter social. In situations like this, our own emotionally weighted biases keep us from seeing the data for what it is and not what we think it should be. Challenging strongly held beliefs is a dynamic hotbed for pooling attention from students.

Example 2: *Neurosensory Dissonance* — Scientific dissonance is commonly used as a tool to capture the imagination of students. In this case, the clear liquid in which you see the ice resting isn't water, though your experience sees a transparent fluid with ice in it and concludes the substance is water. When, in fact, that fluid is acetone, a liquid that is less dense than water, sits atop the ice and will burn quite readily despite it being on an ice cube. But until that final hidden piece of information is brought forth, your brain makes assumptions about what is possible and what is not.

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Image Source: Dall-e, OpenAi.
Prompt: Create an image a Hollywood writing team working through episode plots of CSI:NY. Show idea maps on the wall that detail the latest episode concept. Show the 6 members of the writing team arguing with each other over the ideas.

Example 3: *Narrative Dissonance*

The CSI writing team, for the original and all of the spin-offs were absolute masters at cognitive dissonance. They were so good that if I let myself watch the first five minutes of the show through to the dissonance element, I relegated myself to the couch until all the mysteries were solved. The narrative challenged my understanding of what was physically and chemically possible. Knowing that there would be a solution and knowing the show would teach me enough science to be able to make the dissonance make sense at the end glued me to the couch.

We are learning to wield this psychological power with students to provide reasons to engage in what we offer them. Wanting to seem as SEL as possible, I won't say that we are aiming to run a CIA-style psy-op on them, but... we kinda are if our goal is to use stories and narratives to influence students' emotional states through a fabricated narrative. However, future Devs, we are in desperate times and may need to turn to such calculations to propagate a more promising future for our students and, consequently, our communities, states, and our country. This is why you have been chosen to take this path.

PSY-OPS: THE POTENTIALLY DARK SIDE OF USING DISSONANCE

Before we progress any further, you have to promise something. As a Eduneering Dev, you hold to the highest moreal and ethical standards and promise to wield your skills for tbe good of humanity regardless of the knowledge you possess, it must be applied ethically. To that end, there is a way to get students, adults, citizens, literally anyone, to believe anything no matter how dissonant the incoming sensory data might be.

The most notable example of this phenomenon comes from a psychological experiment, the "Illusion of Truth" experiment or a variation conducted during the Soviet Union era. While similar studies on misinformation and repetition have been conducted globally, the principles align with well-known psychological phenomena surrounding propaganda, repetition, and belief formation. Here's a breakdown of the experiment methods and what they discovered.



Image Source: Dall-e, OpenAi.
Prompt: Create an image that demonstrates the Soviet notion of the "illusion of truth"

PROPAGANDA STUDIES

During the Soviet Union, psychologists and propagandists explored how repetition could influence belief. While specific experiments from this era may not be as well-documented in Western psychology, the principles overlap with experiments exploring false memory, repetition effects, and propaganda techniques. These techniques would draw up large amounts of cognitive dissonance only to be washed away by implying fake events or facts, and repeating them over and over.

THE GENERAL FRAMEWORK: DESTROY DISSONANCE WITH REPETITION



Image Source: Dall-e, OpenAi.
Prompt: Create an image that mixes three things, the Chinese flag, TikTok, and STEM subject imagery.

The central principle demonstrated in these experiments suggested repetition increases believability, even for false information. This concept is supported by studies in Western psychology, such as those conducted in the mid-20th century during and after World War II, which examined how repeated exposure to propaganda made individuals believe even patently false information. Knowing this begs the question, "How many of these old lessons are being used in western media outlets today?" Were there any qualitative elements that resonated with your understanding of modern news media?

Would it totally surprise you that China gets a very different version of Tik Tok than we do? Their youth are limited to DIY, STEM, arts & crafts, personal growth, and is shut down after 9:00 PM. Compare that to what you know Tik Tok is here... butts, farts, & gossip. Mind rot.

FAMOUS PSYCHOLOGICAL STUDIES THAT SUGGEST DISABLING DISSOANCE MORE THAN POSSIBLE.

As mentioned earlier, specific Soviet experiments alluded to these conclusions are difficult to confirm due to historical documentation limitations, we can point to similar experiments to find validity in the assertion that dissonance can be forced into resolution:

The Illusion of Truth Effect: Researchers demonstrated that statements repeated multiple times are more likely to be judged as true, regardless of their actual accuracy. This was studied in experiments by American psychologists like Lynn Hasher, David Goldstein, and Thomas Toppino in the 1970s.

Methods: Participants were exposed to true and false statements multiple times. Even when told some statements were false, repeated exposure increased their perceived truthfulness.



Soviet Experiments in Misinformation: Soviet researchers conducted studies focusing on the indoctrination of belief through controlled media environments.

Methods: By controlling what participants read, heard, and saw, researchers demonstrated that the repetition of controlled narratives could shape people's beliefs over time, even if the information was erroneous, misleading, or weaponized for political purposes.



Pavlov's Conditioning Principles Applied to Belief Systems: Ivan Pavlov, the Russian physiologist known for classical conditioning, indirectly contributed to this understanding. His work showed how repetition and reinforcement could condition not just reflexes but also complex behaviors and beliefs.

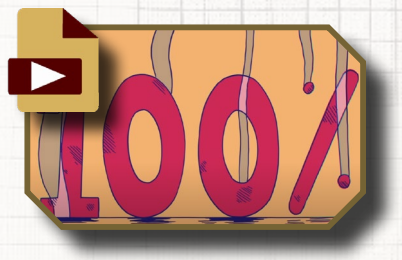


Mechanisms Behind This Phenomenon:

Cognitive Fluency: Repeated information becomes easier to process, and the brain often equates ease of processing with truthfulness.

Confirmation Bias: When repeated information aligns with preexisting beliefs, people are more likely to accept it without scrutiny.

Memory Reconstruction: Over time, repeated falsehoods can be incorporated into one's memory as if they were factual, leading to false memories. This technique is often used by CIA assets when taking on alternative identities. Books, videos, and even personal curios are associated with fake stories and memories that are practiced over and over again. Memory reconstruction is also used by individuals with various types of narcissism who's need to be correct is so strong they literally rewrite the memory in their head by re-imagining it over and over according to the idea outcome.



Every one of those ideas, concepts, and explanations have been repeated over and over for consistency and with very few exceptions, these principles became deeply rooted secrets utilized by those with less than honorable intentions.

A BRIEF HISTORY OF THE EDUNEERING INITIATIVE *(Part III)*

Two years pass (2014) since the Marine Corps triumph turned to tragedy. The opportunity may have evaporated, but the Eduneering Initiative was alive and well. It has been broken down into several pieces and taught covertly to students in Azusa Pacific University's Masters in Educational Technology Program. Students who were interested in more than just a taste made appointments on the weekend, evenings, and whenever they could to acquire the technology training to make their visions for enhanced classroom engagement come alive. For now, Dr. Temple's living room had become the hub for the Eduneering Initiative. It was small and only the most dedicated teachers reached out to train with Dr. Temple. Some going on to win awards of excellence at the district and state levels for their work which began over Diet Coke and some lively discussions.

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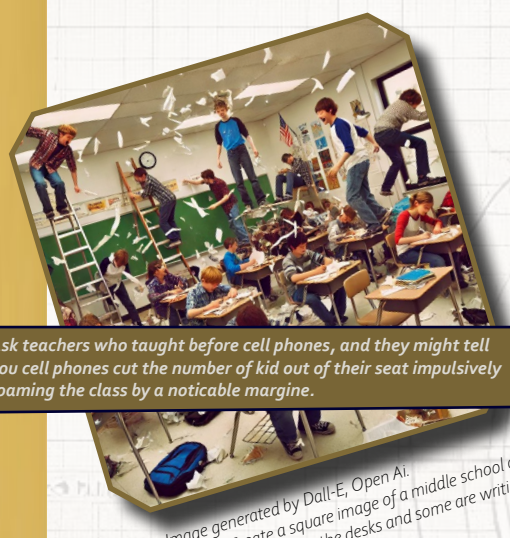
OUR TARGET: 4 MODERN ENGAGEMENT SOLUTIONS



Image Generated by Dall-E, Open Ai.
Prompt: I need an image that demonstrates the massive onslaught of information that today's students are exposed to on a daily basis and

DIFFERENT TIMES, DIFFERENT KIDS

There is, I believe, a distinct neurological and consequently behavioral difference between the students we have now and the students that populated the nation's classrooms 15 - 20 years ago. I've watched over them, year by year, and tracked the changes. When analyzing any two years back to back, one might not see the difference, but regressed over two decades, the difference becomes very clear. As a teacher you are at least a decade older than the average school age student. In some cases where younger teachers who followed a path from university to credentialing to other classroom, you're maybe 24? A mere six years from the average high school senior, yet, you too sense something a different that sets you apart from them. Yes... and you're right... some of that is the significant control your pre-frontal cortex has over your behavior and decision-making matrix. Younger teachers may see a small difference, and at the same time, have been victim of the very conditions we'll discuss here. For my seasoned vets out there, you may have had your nose to the grindstone for so long that only after reading these observations will the differences shock you into realization. Or maybe, like me, you've seen the difference yourself.



Ask teachers who taught before cell phones, and they might tell you cell phones cut the number of kid out of their seat impulsively roaming the class by a noticable margine.

Image generated by Dall-E, Open Ai.
Prompt: Create a square image of a middle school classroom where the boys are climbing on the desks and some are writing in their not books

QUALITATIVE BEHAVIOR DIFFERENCES

Just last night (as I write this) I presented a closing presentation to a 3-course series on technology applications for enhanced learning. One of the students brought up the ban on cell phones which brought about some discussion about their purpose in the learning environment. The student referenced an article published in The Guardian in September of 2024 that discussed how an academy chain with 35,000 students would be the first in England to go phone-free. According to CEO of the Ormiston Academies Trust, Tom Rees, the schools had real concerns about mental health and self-harm post COVID. They cited correlations between mental health and cell phone use that could not be ignored. While I would argue that cell phone use was just as rampant pre-COVID as it was after, we are we are and have to play the hand we are dealt.

That being said... because I started teaching a decade before the introduction of universal smart phones and ubiquitous access to dopamine-addicting social media apps, *they do stay in their seats more with those phones in their hands. The students still had that mad craving for connection, only back then students would roam the classroom out of their seats to get their fix.*

And just like that, everyone who's been a teacher since the 1990s just sat back in their chair and sudden blistering realization of memories long since buried and forgotten. Trigger warning, to my 10+ year classroom vets, let's take a step back in time.

Once upon at time... 20 plus years ago...

I began teaching secondary students back in 1997 and it where ed-tech was just becoming a thing. We had 45" wheel-cart bound tube TVs and VCRs to show videos on, there was no internet, no personal phones to speak of, and only doctors, real ballers, and drug dealers used pagers. So, when my college student introduced the article on the phones, for some reason my brain bounced from there to a time where there were no phones, and I remembered something. More to the point, someone. His name was Brian Cape, and I duck taped him to his stool.

Why? Well, he wouldn't stay in his seat. His mind danced around like a tick on a hot plate and he would find himself across the room in the middle of a presentation and not even realize it. Reminder after reminder after plea, after threat, he just was not able to real himself in long enough to focus on anything. I taught 6 periods a day and if only 5th period was so blessed as to house Mr. Cape, A.K.A. human Sponge Bob, the day would be manageable. Nope.. **every class** had not one but at least 2, 3, sometimes 10 kids that found their minds in torrent they absolutely could not sit still or stay seated. Yes, these were mostly teenage boys, but there were a notable number of girls that loved to covertly switch seats with people so they could sit with their bestie and chat it up about the cute new kid from across town.

And no, I didn't get busted for duct-taping Brian to his stool. One... this was a different time. But, two, I immediately called the parents (who thankfully were also both teachers) and told them what I had done. After they spent 5 minutes laughing hysterically, throwing out phrases like, "oh man, why didn't we think of that!" The event was excused, and then encouraged to do again should Brian get out of line. If I haven't said it before, I'll say it now. ***Win the parents.*** Communicate openly and as supportively as possible. It's the key to having outcomes like this and not ones in the principals office before meeting with district HR.

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I spoke of this tale to the youngbloods in the college class and the idea of up to ten kids waltzing around the room at a time was unfathomable. Any guesses why? Yup... very likely due to the phone. Suddenly, there was this thing that would de-rail their need to physically disrupt the class for their own curiosity. The locus of distraction was largely kept to themselves. Granted, the internet allows them to "get up" out of their see metaphorically and talk to people all over the planet now, but those other people were not in your class, right then, while trying to force feed content.

From a research perspective, what has the neuroscientific impact been on children because of the universally available media on electric devices? Kids' brains are very neuroplastic. Meaning, they can very easily change neuropathways to adapt to new stimuli like changing primary languages. Compared to children 20 years ago, today's children are exposed to an unprecedented level of rapid-response, high-stimulation digital media from a young age. This immersion has the potential to shape neural circuits involved in attention, executive function, memory, and social cognition.

NEUROPLASTICITY AND BRAIN ADAPTATION IN KIDS

Attention & Cognitive Load:

Digital environments, particularly those with frequent notifications, fast-paced video content, and algorithmically curated feeds, may reinforce habitual task-switching (often mistaken for multitasking). Research suggests that frequent digital media use correlates with increased distractability and difficulty sustaining attention in offline settings, likely due to changes in the frontoparietal attention network. The habitual task-switching describes the types of actions one takes on their phone when looking to find a video that they might be more interested in from their TiK Tok feed. Multi-tasking involves moving between productive tasks that ultimately lead to a common goal or occur while engaged with a common task.

Dopaminergic Reward Systems:

Social media, video games, and digital entertainment often employ variable reward mechanisms (likes, comments, notifications) that engage the dopaminergic reward pathways (primarily the mesolimbic system, including the nucleus accumbens). This can lead to increased sensitivity to immediate gratification and reduced tolerance for delayed rewards—a phenomenon sometimes referred to as digital hyper-stimulation and it is the destruction of what we from the 20th century call, "grit." In some schools this need for positive stimulation to "make me feel good" includes the use of wearing ear pods, ear buds, or headphones to listen to music. When asked, the students said they need the music to make school tolerable. I asked them, "So it's like anesthesia for a surgery. Makes you not feel the pain of the process." To which, they answered, "Yeah, exactly like that."



Image Source: Dall-e, OpenAi.com
Prompt: Can you make in image that represents the basic premise of "Cognitve Load Theory"

WORKING MEMORY AND DEEP LEARNING CAPACITY

Cognitive Offloading (Outsourcing):

The widespread availability of smartphones and internet access has led to a phenomenon called cognitive offloading, where individuals rely on external digital tools rather than internal memory for information storage (e.g., using Google instead of recalling facts). While this can enhance efficiency, some studies suggest it may reduce deep learning and long-term memory consolidation, particularly when information is rapidly consumed rather than deeply processed.

(note: schools are starting to move in that direction because the kids brains are best wired for this delivery modality. Longevity and practiced patience are frequently abandoned by teachers due to so many of the students failing to uphold the ability to display these formally key learning attributes.)

Reading Comprehension & Cognitive Patience:

Research in educational neuroscience indicates that increased digital reading (skimming, scanning, hyperlink navigation) correlates with lower comprehension of complex texts compared to deep, sustained reading of print materials. This suggests a shift in cognitive engagement patterns, favoring quick processing over deep reflection. In a society that constantly sprays content at people all the time, people have evolved to be come information filter-feeders rather then information hunters. Ask anyone who's used a card catalog to find a book or a research paper. There was a time where you had to hunt down information; today it's thrust at our brain like water from a massive fire hose.

SOCIAL COGNITION AND EMOTIONAL DEFICITS

Altered Social Processing:

Face-to-face communication develops critical nonverbal communication skills (e.g., interpreting tone, facial expressions, and body language), which are essential for empathy and emotional intelligence. Children growing up with predominantly digital interactions may have fewer opportunities to develop these skills at the same rate as previous generations.

Diminished Boredom Tolerance:

Neuroscientists argue that boredom plays a crucial role in fostering creativity, self-regulation, and problem-solving skills. Constant access to digital stimulation may limit these moments of self-directed thought, leading to lower frustration tolerance and reduced intrinsic motivation.

NEURODEVELOPMENTAL TIMING & CRITICAL PERIODS

Sensitive Periods in Brain Development:

The brain undergoes critical periods of development, particularly during early childhood and adolescence, where exposure to specific types of stimuli can shape cognitive and behavioral trajectories. Overexposure to rapid-response digital media during these critical periods could lead to long-term changes in attentional control, impulse regulation, and risk-reward evaluation.

Increased Diagnosis of Attention-Related Disorders:

Some researchers speculate that increased diagnoses of ADHD and executive function difficulties may be partly influenced by early and excessive digital media exposure, though the mechanism by which this happens remains a topic of debate. The correlated rise in ADHD diagnosis along side the vapid expansion of ubiquitous emotionally addictive content could, at least statistically suggest that these events are at least increasing over the same time period and at largely the same rate. However, this is environmentally produced ADHD would be analogous to a child who inherited genes predisposing a fast metabolism. However, the skinny kid grows up in a house filled with unrestricted snacks and candy. Clinical ADHD is an inherited neural predisposition for overloaded sensory processing. Media induced ADHD would be more akin to type II diabeitis.

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Cell Phones and the ability to interact with adults, teachers, or employers:

The inability of young people to talk to adults has risen from being jokingly familiar to being a legitimate economic nightmare. These same students (largely talking to Gen-Z, here) that graduated as the first generation to have been spoon fed high-frequency high-intensity media their whole lives, have been fired from jobs at record highs. An article from Inc. This Morning wrote an article in October of 2024 that asked the question why so many companies are firing Gen-Z employees? According to the career advisory platform "Intelligent" Gen-Z workers have "unsatisfactory" performances lacking motivation, professional dispositions, and poor communication skills. Looking back at this, knowing the effect rapid-fire, universally available, dopamine distributing media can have on the pleasure and habit forming parts of the brain, I think it would be hard to make a case that cell phones are somehow not involved with this generational characterization.

However, the questions begs to be asked: "Are the problematic behaviors associated with Gen-Z students inherently the fault of the phone or could it be due to our inability to train them on how to manage the phone properly?"



Image Generated by: Dall-e, OpenAI.
Prompt: Create a realistic image that visually expresses this idea: Overexposure to rapid-response digital media during these critical periods could lead to long-term changes in attentional control, impulse regulation, and risk-reward evaluation.

MOBILE PHONES: SCOURGE OR SCAPE GOAT?

In recent years, numerous U.S. states have implemented policies to regulate or ban the use of cell phones and social media in secondary education, aiming to enhance student focus and address mental health concerns. This movement has garnered bipartisan support, with both Republican and Democratic governors advocating for such measures. Has it come to this? Has it come to the point where parents are taking the toys away because the kids can't manage them?

These state-level initiatives reflect a growing recognition of the challenges posed by cell phone and social media use in educational settings. By implementing tailored policies, states aim to foster environments conducive to learning and safeguard student well-being.

As a person who might be outside the school system, one might ask themselves if it makes sense to take the phones away. If the phone is a distraction, then remove it. If that is your view, it's not entirely without evidence. Pilot programs in Florida (the first state to formally crack down on cell phones) demonstrated notable gains in state content area assessments when phones were removed. Still seems logical, so why would teachers ignore what clearly appears to be an issue?

REASON #1: EMOTIONAL AND PHYSICAL SOOTHING.

Recall that students are highly influenced by their feelings and tend enable behaviors that feel good over those that are logical over time. Typically, the students who have their phones out chronically visually demonstrate they have disengaged from class. They may not have the emotional energy to do school work for various reasons - *which can be very real*. I could write another book on the insane stories heard from students regarding their drug-addicted parents, homelessness, and general abuse. More commonly, they just don't feel like doing the work, and TikTok or YouTube 'doom-scrolling' is far more emotionally rewarding to them. The students I have personally spoken with regarding their cell phone addiction also state that they don't need to get good grades because their parents don't care (now, if you call the parent to verify this, that's not what the parent typically says). The lack of care is the student's perception; the emotional perception of their parents' interactions with them. If the parents do not ask about school, make it a priority in the home the student concludes the parents do not think school is important. Regardless of how the student ended up in this state of apathy, that's their home now.

A BRIEF HISTORY OF THE EDUNEERING INITIATIVE *(Part IV)*

In 2015, Dr. Temple decides to put what he thinks he knows to the test. Up until now, Eduneering was focused on small unitary implentations covering 1 to 3 weeks in length. But what if we took all of these psychological and behavioral tools, our knowledge about the modern student's motivations, and mixed it in with a little "CSI:NY" plot design experience. And what if in stead of just a unit, Dr. Temple could thematically cover an entire year of high school chemistry under one thematic umbrella. In the Fall of 2015, the first variant of AREA154 was born. A mere shell, of it's now internationally renowned big brother, AREA154: The Apocalypse Division, the first itternation blew minds, confused parents, and had administration scrathing their heads wondering why this chemistry really didn't look like a chemistry class anymore.

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REASON #2: MINIMIZING CONFRONTATION

Many teachers will go through the motions to ask students to put away their phones using various methods. Some go as far as to ask the student to forfeit their phone to the teacher. To counter that method, students have been bringing multiple phones to campus in case one is taken. I have heard horror stories of teachers attempting to take the phones from the students after spending 5 minutes of class time arguing and the students resisting. There ultimately comes to a moment where the student has burrowed into their position, and at the risk of losing face in the class, the teacher attempts to physically take the phone from the student. In this case, the teacher ALWAYS looks bad. There is no upside.

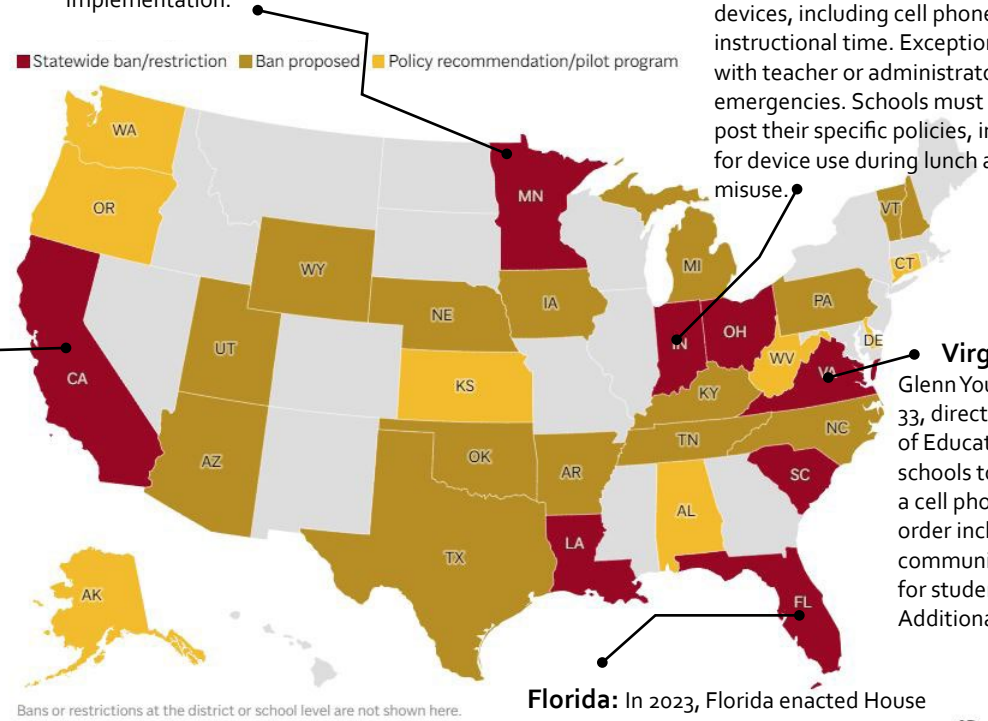
I've heard about and witnessed fights - physical altercations - between students and teachers because of phones. The teacher enforcing the school policy is now out of work for 5 days because they have a black eye and contusions on their body from falling against desks. These are extreme situations, but responses of this degree seem to occur more frequently than one might imagine. Enforcing the school policy can put teachers' well-being at risk; it disturbs the class climate, diverts critical class time away from teaching, and redirects it to policy enforcement. Teachers don't have a lot of legal protection, and districts will turn on a teacher in a heartbeat if they think the teacher has put the district in bad public standing. This is as real as gravity and as consistent as taxes.



Image Generated by: Dall-e, OpenAi
Prompted: Create a realistic image that represents this phrase: "Gen-Z workers have "unsatisfactory" performances lacking motivation, professional dispositions, and poor communication skills." Show a Gen Z workers (age 18-30) at work representing thise negative traits

STATES LOOKING TO BAN OR HAVE BANNED CELL PHONES (2024)

Minnesota: Legislation passed in 2024 mandates that school districts and charter schools adopt policies on student cell phone use and possession by March 15, 2025. While the law requires establishing such policies, it does not specify their exact nature, allowing districts flexibility in implementation.



Bans or restrictions at the district or school level are not shown here.
Source: AP reports; KFF

California: Governor Gavin Newsom signed Assembly Bill 3216 in September 2024, requiring all K-12 public and charter schools to develop policies limiting or prohibiting cell phone use during the school day by July 1, 2026. This legislation aims to mitigate distractions and potential mental health impacts associated with excessive student cell phone use.

Indiana: Senate Bill 185, enacted in 2024, bans students from using any portable wireless devices, including cell phones and tablets, during instructional time. Exceptions are allowed with teacher or administrator permission or in emergencies. Schools must draft and publicly post their specific policies, including guidelines for device use during lunch and consequences for misuse.

Virginia: In July 2024, Governor Glenn Youngkin issued Executive Order 33, directing the Virginia Department of Education to draft guidance for schools to create policies enforcing a cell phone-free environment. The order includes provisions for parental communication and accommodations for students with medical needs. Additionally, $500,000 was allocated

Florida: In 2023, Florida enacted House Bill 379, prohibiting student cell phone use during instructional time. The law also mandates that teachers designate specific areas for students to place their phones during class. It also requires schools to block access to social media platforms on school computers and Wi-Fi networks, except for educational purposes.

Currently, 30 states have either enacted a ban or legislation to restrict or ban altogether the use of phones *- for any reason - inside of America's classrooms. Nationwide, 77% of schools say they prohibit phones. Though that number seems high, it's misleading due to teachers ignoring and not enforcing the rule.*

Potential physical harm, emotional turmoil, no legal protection, and a very real possibility of losing your career over a kid's phone, not to mention a kid that has chosen to ignore the educational opportunities planned and presented to him. As a former veteran of the classroom (28 years), I'm not shy about sharing I pursued a much less aggressive stance on phones and due to many of the previously mentioned reasons. These are kids transitioning to adulthood. If you want to flush your life away for make-up tips on TikTok, who am I to say no? The conditions were such when I left classroom teaching, a student could change their gender right in front of you and then demand that you can't say anything to their parents. And legally, at the time, teachers' hands were tied. So, if you're old enough to change your gender, you're old enough to know what you're throwing away by playing on your phone. There are other approaches, generally speaking, that was mine.

REASON #3: THE SOCIAL-EMOTIONAL LEARNING (SEL) CONFLICT

One of the pillars of the CASEL social-emotional learning content focuses on an individual's ability to develop skills to self-manage and self-regulate emotions. Is mandating the cell phone problem robbing them of the opportunity to learn how to self-regulate?

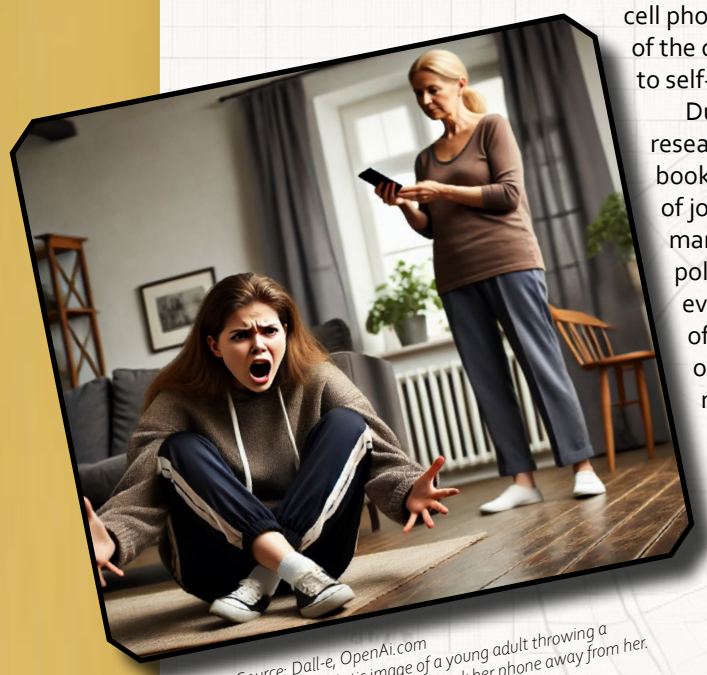
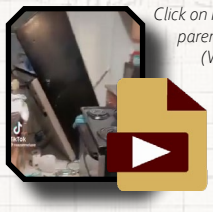


Image Source: Dall-e, OpenAi.com
Prompt: Create a realistic image of a young adult throwing a temper tantrum because someone took her phone away from her.

During some investigative research while writing this book, I analyzed the sorts of jobs and job sites that mandate the no cell phone policy. As it turned out, every single example of a cell phone ban occurred in lower-wage manual labor positions. In contrast, higher-earning managerial leadership positions required metered and structured use of cell phones. What are we inadvertently telling our students?

Are we conditionally pushing them into environments requiring them to be managed rather than operationally independent? Is there some middle ground here? I am well aware that cell phones pose a problem. However, there's also no promise that students will engage with the curriculum without the phone, especially if the phone is forcefully removed from the student. Conflict between students and teachers often breeds emotional barriers that distance the student from the teacher's influence. Over and over again, students willingly told me they have failed classes because they felt the teacher didn't like them. I'd stare at them in disbelief. My conversations with them generally went something like this:

> "You failed the class because you thought the teacher didn't like you?"
>
> "Yeah, I wasn't going to do work for someone that doesn't like me. F#@ them!"
>
> "You're going to have to go to summer school now. Your summer is gone… you know that, right?!"
>
> "Summer school is easy, and I get bored at home."

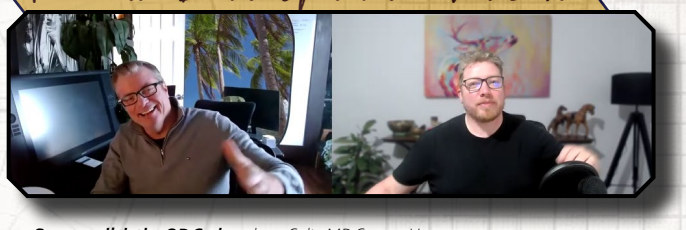


Click on Play Icon to watch the results when a parent took away their teenager's phone. (Warning, it's bad.)

A hundred variations of that conversation took place over my tenure in the classroom. It's the most illogical set of choices! This response, yes, was absolutely insane… but… despite the student's emo-driven logic system which facilitates their decision-making methodology is quite normal for their age. A student's conviction to fail the class might reveal something about how the "institution" has trained (or not trained) teacher candidates on how to de-escalate absolutist kamikaze-like decision making. Emotionally driven choices are often used as a sort of weapon to cause pain in the person who injured you. The student at some level must realize that one of the teacher's core beliefs is to get students to succeed. Intentionally dive-bombing a course due to the implicit assumption that helping kids succeed brings joy. The student may be intending to strip the teacher of the satisfaction of knowing they were able to improve the student's academic career or pass a class. The shut down reflex might also be as simple as the student endorsing the need to retreat from actual work they don't like in the first place and experience very low self-efficacy in the subject.

And all of this drama over a cell phone… At least that's what the adults in the room see it as, just a phone. To the student, it's their connection to all things good and their source of contentment, control, ownership, and conduit to their entire social identity.

From the Blind Spot Video Podcast



Scan or click the QR Code *to hear Colin MB Cooper Human Psychology and Business Behavior Expert & Dr. Temple podcast about advanced tech and teaching:* ***Is generative AI, cell phones, and advanced technology really as bad as critics think for education?***



Image Source: Dall-e, OpenAi.com
Prompt: Create a realistic image of a teenage boy violently protesting to having his phone taken away by the teacher. Show the shocked students in the back of the room.

OUR TARGET:

5 EDUNEERING IS EQUITY OF OPPORTUNITY

IT IS NOT A PROMISE OF EQUAL OUTCOME.

While I believed this at the gut-level, it wasn't until I saw Dr. Jordon Peterson explain the complexities of the idea that I had the words to internalize and re-explain it. Equity of opportunity and equity of outcome are fundamentally different concepts, particularly in the context of K-12 education. As a seasoned instructor, I've witnessed firsthand how these ideas play out in the classroom, especially when learning technologies are involved.

Equity of opportunity refers to providing all students with the resources, access, and support needed to succeed. In contrast, equity of outcome suggests that all students will achieve the same results regardless of their starting points, environments, or individual differences. The reality is that the former does not guarantee the latter.

As a Eduneering "Dev" in training, you are learning how to combine multiple technologies and creative skill sets that allow you to provide every student with the opportunity to:

- Δ Work at home at night when family or work responsibilities are complete.
- Δ Participate in class content when on vacation or if displaced and can't attend school.
- Δ Have support materials at their disposal to support understanding.
- Δ Centralized locations on line where the Omnidocs can be acquired and facilitated.
- Δ A high-interest story line or narrative to enhance engagement and curb disengagement
- Δ Built-in language support to help ELL students.

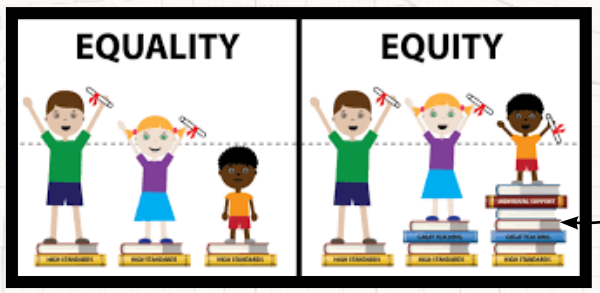
You will learn how to develop the Omnidoc tool so that you can use it to provide opportunities to students that, even 5 years ago, were impossible to provide on a large scale.

LEARNING TECHNOLOGY AS FACILITATOR, PROVIDER, AND SUPPORTER

Learning technology offers remarkable opportunities to enhance education. Tools like tablets, laptops, interactive software, and online resources can bridge gaps in access to information and provide personalized learning experiences. For example, adaptive learning platforms such as Khan Academy or i-Ready tailor lessons to a student's current skill level, offering a customized path to mastery. These tools represent equity of opportunity by giving students access to high-quality educational content that might not otherwise be available.

THE STUDENT STILL HAS TO DO THE WORK!

Eduneering facilitates the opportunity to complete that work when the student is at their best. ONLY if the work is done will the outcomes and rewards be acquired. However, Eduneering and Omnidocs do not ensure that all students will achieve the same level of learning. As previously noted, as a "Dev" your content has superior instructional support, despite that there are additional reasons why you shouldn't beat yourself up if the student has a dry spell of success.



Eduneering Developers design content for this level.

EDUNEERING VS THE FAMOUS EQUALITY VS EQUITY EXAMPLE

First, let's analyze the image. To be fair, for the sake of example, all of theses kid's sizes are connected to their academic abilities and not to their biological age.

Second, let's assume that the books represent, not the max resources allotted to the student, rather the minimum required resources need to reach a particular learning goal set by the teacher.

Third, let's acknowledge that different students will require different resources. Where some students will use all of the available resources and other will not.

Fourth, the amount of time and effort the students put in to reach the goal is NOT going to be the same across the three students. With more resources, logically, more time is required to read, watch, process, and apply those to reach the learning goal. That little guy on the right, is going to be spending every free second he has to reach the learning goal where as the boy on the left will, by the same logic will achieve the same goal using less resources and time… and there's no factor on the face of the Earth that will change that truth.

So where does Eduneering fit in? The Eduneering idea, u-Learning, and the Omnidoc concept utilize technical and creative processes to build for the ***last student*** and their needs. Omnidocs include a uncommon amount of support and scaffolding for learning. Devs realize one doesn't have to use all of the support. But if needed, it's there. These designs and builds take FAR MORE time to make and deploy than normal curriculum. *You as the teacher have put **your** time in…* now it's time for them to invest theirs.

TIME FOR THE KIDS TO ***DO THE WORK!***

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Digital Literacy:

Not all students—or even their families—know how to use technology effectively. A student who has grown up with limited exposure to digital devices may struggle to navigate learning platforms while their more tech-savvy peers excel. This difference in digital fluency can widen the achievement gap.



Home Environment:

Socioeconomic factors often play a critical role. A student with a quiet space to study, supportive family members, and reliable internet access will have a vastly different experience with learning technology than a student who lacks these supports. As a prominent education researcher, Linda Darling-Hammond noted, "Equal access to tools doesn't equal access to learning conditions."

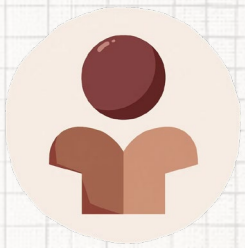




Click to hear ARAH's Commentary

Teacher Facilitation:

The effectiveness of technology in the classroom depends on how well it is integrated into instruction. Teachers who are well-trained in using edtech can create transformative learning experiences, while those who are not may fail to leverage its potential, leaving students undeserved.



Intrinsic Motivation & Learning Styles:

Technology is a tool, not a solution. Students bring their unique attitudes, motivations, and learning preferences to the table. A self-directed learner may thrive in an online environment, while another student may disengage without the scaffolding provided by a teacher's direct guidance, or the positive motivational input.

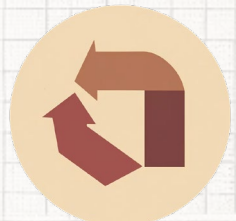


Image Source: Dall-e, OpenAi.com
Prompt: Develop Icons (color palet provided) for motivation, teacher facilitation, home environment, and digital literacy

FURTHER PROOF IT TAKES MORE THAN FANCY TECHNOLOGY FOR ACADEMIC SUCCESS:

One well-known study by Mark Warschauer and colleagues (2004) demonstrated that providing laptops to students did not automatically lead to improved academic performance. ***Success depended on HOW (The design of the lesson) the devices were used in instruction, the level of teacher training, and the context in which students engaged with the tools***. Warschauer emphasized that "closing the digital divide is not just about providing access to technology but also addressing broader educational and social inequalities." So, how does one close those gaps without some form of Marxist-style behavior modification and robbing someone of their absolute freedom to be a "dumb-ass," as Grandpa would say. Sure we could, but that runs the risk of giving poorly raised children and poorly trained parents someone to blame as they become the victims of their own poor choices. This idea might be more clear in the following "for instance."

For instance, consider two students receiving a tablet loaded with the same educational apps. One student with parents who encourage regular use and provide a safe dedicated time and place to study may achieve significant learning gains with tablet use. Meanwhile a different student, whose parents do not prioritize school achievement or academic performance at home, or because of ultra-rural living or financial complications, access to reliable internet at home might be a fleeting resource, and one largely out of the students ability to fix. These two different students will not benefit the same way despite being provided all the technology equally.

As there are priorities and expectation differences at any given home, there are also notable differences between instructors at any given school. Technology can lose it's positive effect if the teachers aren't inspired by it or see it as a burden, or one more thing to have to manage. Ideally, all students would be able to have teachers that are equally trained and equally as enthusiastic about incorporating advanced technology to enhance learning. The reality of any school reveals inequities in this area. Not everyone gets on board let alone finds themselves technologically inspired. Moreover, in the public education space, teachers can say "no thanks" to any training or school mandate if it's not expressively noted in their contract. Not that there aren't consequences to saying no, but those consequences have little impact on a 20+ year classroom veteran who has knows they can't be fired no matter what they say to the training.

As both these situations, at home and in school, both have inherent inequalities, there will always inequalities. While we continue to try and balance the factors we can control, there is only so much the school system can do if the parents at home and the students don't really to their best to maximize this opportunity of a free education. Just ask any child in a third world country about their ability to get an education. According to World Bank Researcher Tatyana Golubyenka (2009) who spent months living among the tribal poor in Africa, an education is THE MOST SOUGHT AFTER ASSET right after food and water. The urn to learn. They see it as a charmed gift and something only the right are provided. I wish I could have bottled the passion Ms. Golubyenka used to express how painfully true the education disparity is in Africa. Her response might just put some perspective to the opportunity sitting in front of our students and families here everyday.

ADDRESSING THE GAP BETWEEN OPPORTUNITY AND OUTCOME

To bridge the gap between opportunity and outcome, educators and policymakers must address systemic inequities that affect how students interact with learning technology:

Training and Support:
Teachers must be equipped with professional development to integrate technology effectively and creatively into their pedagogy. Students and families also need training in digital literacy to ensure they can use the tools meaningfully.

Holistic Resource Allocation:
Equity of opportunity must include support systems beyond technology, such as access to broadband, quiet study spaces, and mentorship - *this is entirely on the parents.*

Inclusive Design:
Learning technologies should be designed with diverse learners in mind, accounting for varying abilities, languages, and learning styles - *this includes the time to do the work.*

Ongoing Assessment:
Schools should regularly evaluate the effectiveness of edtech tools and refine their implementation strategies based on student outcomes and feedback.

Student feedback is critical and solutions included as soon as possible - ultimately these tech adjustments could be and will be made within or between classes on the same day.



Image from Brookings.com. Article titled: Idea to retire: Technology alone can improve student learning. (Lettvin, South, & Stevens, 2016).

And this cannot be overstated…

While it might not be popular to confront people involved in the education process, no one likes to have their deficits put in their face. Still, educational opportunity thrives ONLY when the three pillars of opportunity work in concert.

Parents… this means YOU, TOO!

Structurally, the triangle is the most useful and balanced piece of structural geometry. However, if any one part of this tripod decreases in magnitude, the opportunity potential drops significantly.

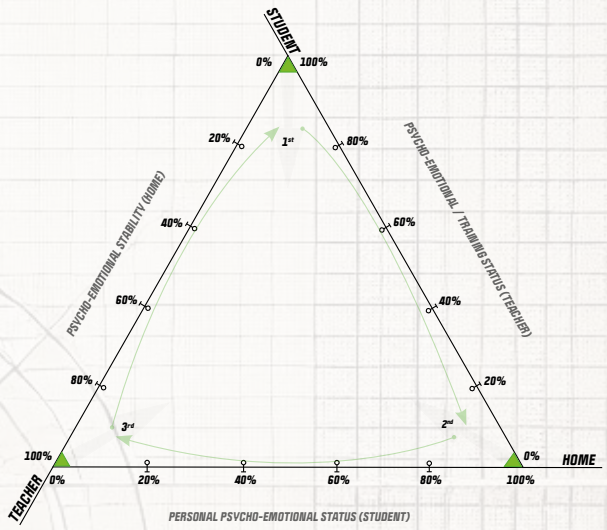
EDUNEERING SEES THE ENTIRE PICTURE

The Tri-Section Model of Student Learning Potential:

At any given point the student's learning potential is determined by three intersecting variables that can change minute to minute, day to day, even year to year. As we noted earlier, not everyone will have a 90-100 level teacher. That will limit learning potential right off the start. At any given time, life at home can take a turn for a while… that also limits learning potential.

The three sections include:
The Bar: *A measure of 100 would specific that any given category is currently operating at 100% of its learning potential for that environment and time.*

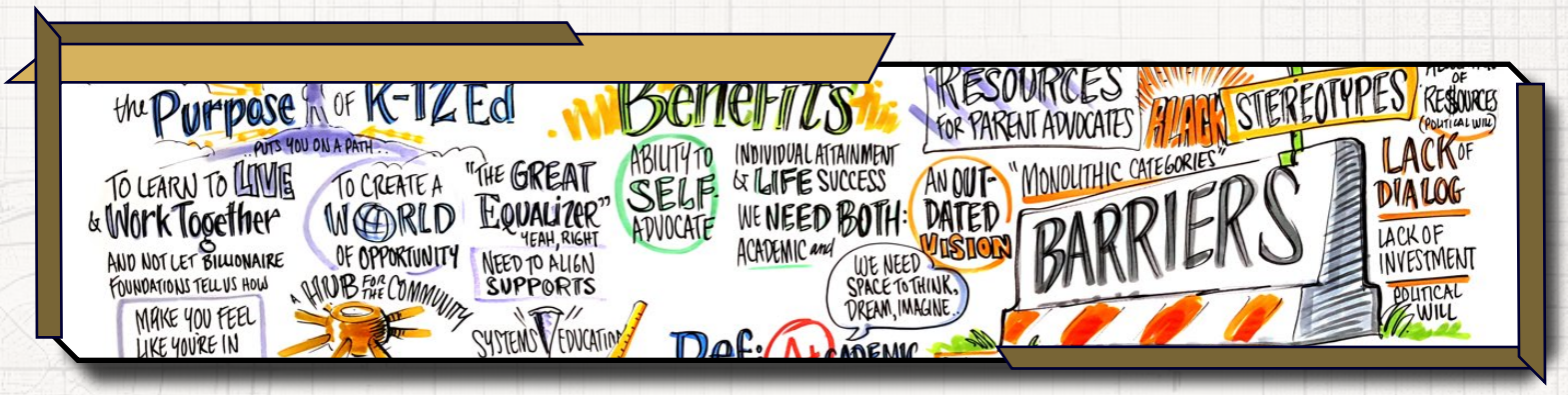
The overall status of ***the student***
The overall status of ***the teacher***
The overall status or state of ***the home***
(*The vast majority of the home sectors falls on parental status*).



The "Sector Diagram" is a qualitative imagry tool that helps visualize the interplay that occurs between the student, home, and the teacher that creates the complete picture for learning potential for a student at any given time.

Eduneering design methods are deployed to maximize ALL SECTORS by uniquely empowering each one. When the Tri-Sector Model indicates a reduction in engagement, Eduneering training can adjust the learning environment (more than most) to maximize learning potential though neurocognitive training, narrative building, and resource abundance. Will it fix the root cause of the reduction? No, not likely, but it does buy a little time to enhance learning potential even if just a little.

Eduneering methods have very little control over the Home Sector, though building Omnidocs that can provide instruction at any time or place with WiFi does help the student mitigate challenges at home. That said, real learning potential at home is maximized when the parents are involved and have a clear understanding of their role as parents as well as a clear understanding of the consequences if they reconcile that noble responsibility into a trivial task.



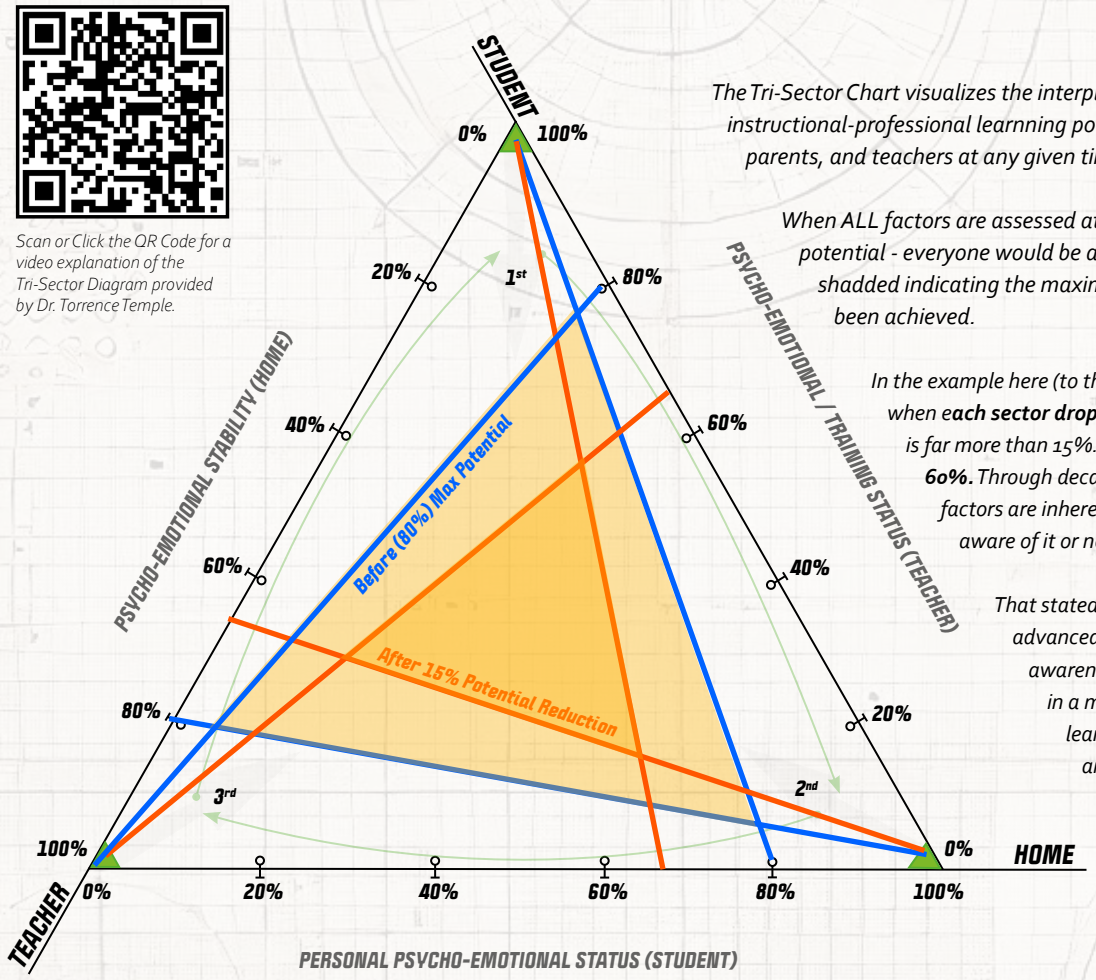
WELL, WHAT IF THE PARENTS WON'T DO THEIR JOB? THE SCHOOLS PICK UP THE SLACK...

The SEL movement might be one of the better examples of how state-run education steps into do the job the parents are not. Social-emotional learning really exploded around the time of COVID, though it had been around for some time. When I first started teaching in a middle / upper-middle income school district (1997) very little attention was paid to SEL during the credentialing process and teacher development at district and site levels.

Why? (insert old man voice) Back then, the answer for me and every other teacher in our department was simple; parents were parents so teachers could teach. The schools didn't need to focus on social-emotional stability because the vast majority of parents knew their job, and, interestingly, had a bit of an issue if the school district tried to put policies into place that usurped the parent's voice in training the emotional intelligence of their kids. As time passed and that particular community became more diverse, the student's social and emotional stability notably declined (for unknown reasons). By my tenth year or so, I recall having conversations with the "D-Track" team, including phrases like, "So, when did we become their parents?" We were all increasing number of school hours that were dedicated to supporting the emotional equilibrium of the students. Eduneering practices enhanced teachers' abilities to mediate cognitive and emotional challenges. That being said, instruction will always suffer if limited class time is derailed by mitigating turmoil that used to be mitigated by parents.

Fast forward another 9 years, and I found myself in a community of relatively poor families with kids who wore $150 pairs of Air Jordans to school with the latest iPhones in tow. After being immersed in this community for near a decade, I noticed that the students were being provided "things" instead of time (based on hundreds of hours of observation and conversations with students who opted to hang out during lunch and talk). The parents worked day and night to provide their kids with emotionally gratifying stuff instead of adjudicating time to help guide and support them through school. Maybe that choice wasn't even a choice, as a surprising number of the students had parents who barely graduated high school, dropped out, or never went because they were working a job with their own parents trying to sustain household needs. In schools like this, the college-educated teaching staff inherited the mantle of responsibility for instilling all of the key traits needed to make the school opportunity feel valuable. SEL appeared to be a structured methodology by which the teachers became the parents, just without any of the support that comes with being someone's legal guardian. When you see the Sector Charts for this situation, it will make sense.

Scan or Click the QR Code for a video explanation of the Tri-Sector Diagram provided by Dr. Torrence Temple.



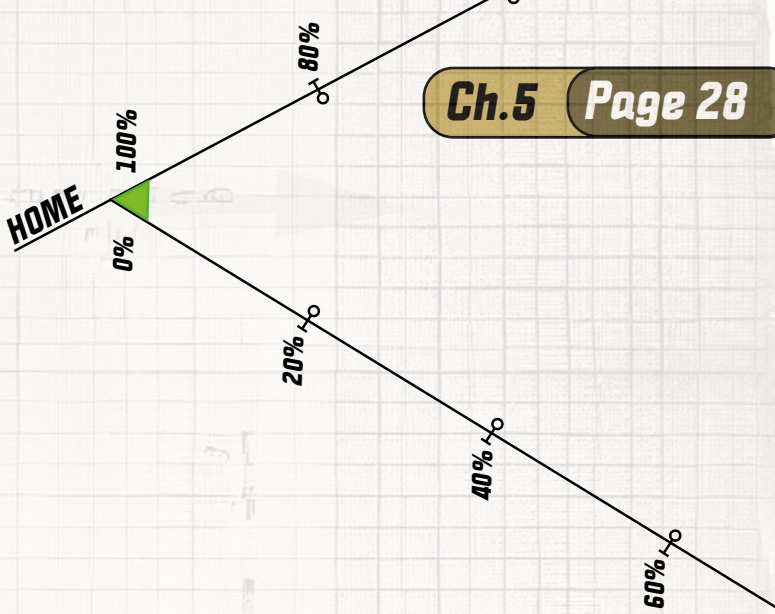
The Tri-Sector Chart visualizes the interplay for cognitive-emotional-instructional-professional learnning potential by gathering data on the students, parents, and teachers at any given time.

When ALL factors are assessed at the top of their psycho-cognitive potential - everyone would be at 100% and the entire triangle would be shadded indicating the maximum learning potential conditions have been achieved.

*In the example here (to the left) notice the drop in learning potential when e**ach sector drops by just 15%**. The loss in learning potential is far more than 15%. The **loss in potential might be closer to 50-60%.** Through decades of observation, I've noticed that these factors are inherently linked together whether each sector is aware of it or not.*

That stated, a well trained teacher can use their advanced knowledge of psycho-behavioral awareness to influence the student's potential in a more positive direction, minimizing the learning potentiasl loss. On the other hand, and untrained teacher could also compound the problem forcing further loss in learning potential by unknowingly aggrivating an already emotionally charged situation.

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THE HOME SECTOR:

WHEN THE PARENTAL SECTOR OF THE TRIPOD IS STRONG:

The parent(s) provide significant support for the student like time, material resources, dedicated work rooms, and more. The research on this topic is VERY clear; If the parent values the education as a key part of life success, so will the student. Here's how they do it...

Provide a dedicated place in the house (not their bed) where they can be in a cognitively welcoming thinking space. The space can be a desk or a table, well-lit and distraction-free.

Ideally, the ***parent provides "sacred time" where the student is left alone to complete the tasks from school*** as soon as they can when they get home, decreasing the potential for memory loss as the day progresses. Students who are forced to do homework later at night are at a disadvantage for this reason. Short-term memory will have long forgotten much of what was expressed to the student in the class, putting the student in a strategically poor position to complete their work successfully.

Bedtimes are enforced, and games and internet shenanigans are not keeping the student up until 2:00 AM. Screen time is regulated, and family interaction is encouraged after schoolwork has been settled for the day.

Moderate consideration towards the student's nutritional needs. These years are among some of the most important, given the inherent neuroplasticity kids have in their formative years.

Support to create productive habits, such as putting their educational electronics in places that allow for easy recharging and won't be forgotten if rushed out the door in the morning.

Provide frequent and vocalized support of the schooling process, higher education goals, and the need to do well in school. Not every subject will come easy, and that's OK. Prompting and supporting 'grit' in the student's behavior is almost entirely in the hands of the parent (or ideally should be).



Click to hear ARAH's Commentary

EDUNEERING: BEYOND THE DESIGN

The tactical advantage of this information:

Yes, most of the time, as the teacher you have little influence over what happens at home. However, there will always be parents that will come to you saying, "I've done everything and I don't know what else to do!" WHEN this happens, this set of DOs and DON'Ts are your go-to starter list to inquire about how the student is supported at home.

Note: *Parents are prideful and will resist seeing the error in their ways. ensure them that you're not judging you're part of THEIR TEAM to help the student be a successful as possible. You are both looking for ways to help. That includes doing some things and stopping others.*

WHEN THE PARENTAL SECTOR IS WEAK:

Despite our efforts, even the best parents have times when home isn't offering up it's best. These are signs that the Home Sector is not operating at it's best...

The parent(s) immediately capitalize on the student's time upon arriving at home, enforcing chores or babysitting responsibilities on them. Every hour they spend attentive to domestic issues, their short-term memory lets go of more important nuances that help complete assignments and allow for important reinforcement.

Parents use kids to do the work the parents should be doing which derails the ability of students to focus on their school duties. Family is important, but so also... is that family members future.

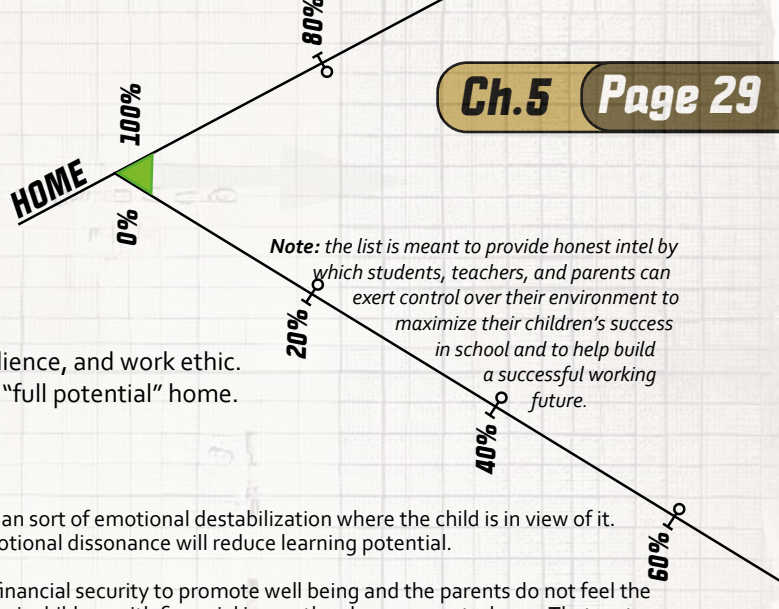
Parents either neglect or don't talk about the topics the student is learning. They use the phrase "how was school?" When the student replies, "Fine." The conversation ends. Ideally, asking open-ended questions provides better opportunities for cross-examining students' understanding of their day.

Parents neglect to contact the teacher to establish a line of communication. That open channel ALWAYS results in a better educational experience for the students. Teachers can be negotiated with. They are human, too. Like most humans, they are far more likely to negotiate with some that's clearly made an effort to open communications with them.

Social engagements are avoided on nights when school is occurring the following day. I get it, Uncle's 35th birthday is important. Then perhaps plan on coming back a little early if the party is on a Wednesday and there's school in the morning. I've personally seen students fall asleep on their desks because a family member had a special event until 1:00 AM on a Sunday.

Electronic devices are not given a "home" to recharge every night. Habits are supported to ensure this happens every night. Consistency breeds efficiency and learning these simple skills saves TONS of time, stress, and effort later. In an age of heavy digital learning, a dead Chromebook is a day of lost learning.

Provide the student excuses to accept bad grades or to not succeed in a subject. Statements like, "I dropped out of high school; at least you're still enrolled." or "I didn't do well in math or science, so I guess I can't expect you to do any better." Or one of my personal favorites, "I didn't get better than a C- in math, so I can't really expect you to do much better." *(WTF!?)* As crazy as it may sound, these are direct quotes from students detailing what their parents had said to them about their academic expectations.



***Note:** the list is meant to provide honest intel by which students, teachers, and parents can exert control over their environment to maximize their children's success in school and to help build a successful working future.*

WHAT DOES A 100% FOR HOME LOOK LIKE?

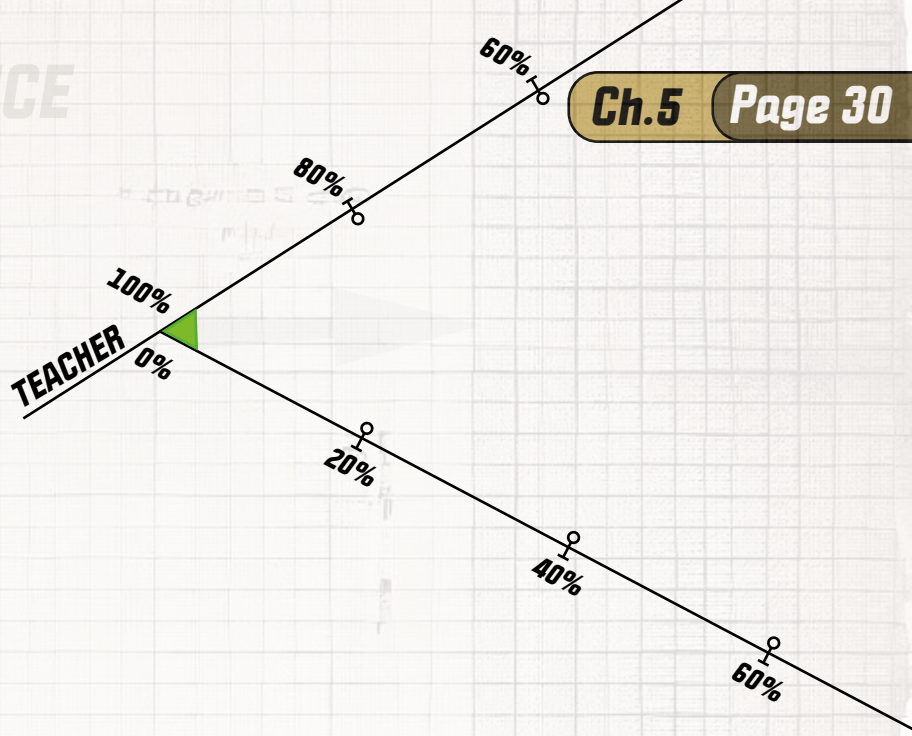
A "Full Potential" home has a set of variables in place which support the academic process, the emotional-behavioral stability of the child, the child's disposition, resilience, and work ethic. Listed below are a culmination of factors that, according to teachers, make for the "full potential" home.

THE FULL POTENTIAL HOME:

Free from parental relationship conflict in view of children	If parents display an sort of emotional destabilization where the child is in view of it. The resultant emotional dissonance will reduce learning potential.
Stable home economics	There is enough financial security to promote well being and the parents do not feel the need to burden their children with financial issues they have no control over. That sort of information only burdens and stresses the child.
Mon & Dad are together and emotionally stable	I'm sorry single parents. The research is overwhelmingly clear on this. Moms can't be Dads. Dads can't do what Mom's do with the same efficacy. It's a team job to do it right.
A parent is at home when the child returns from school	This might not be possible all the time. However, the more time the student spends ungoverned and unmanaged the greater the chance no productive school work will be done. More time alone = lower learning potential.
Parents demonstrate a consistent daily interest in child's learning	"How was your day at school?" Is not interest as I see it. Rather to know that the child is learning about forces of motion and the parent can ask, "So who has more inertia on Saturday Mornings, you or your sister?" Intelligent questions bread intelligent thinking.
Parents set and enforce a daily schedule during the school week	Kids require structure. The more structured the environment the more safe they feel. Sure, kids won't like this all the time, but savvy management will result in kids that are well rested. Soon kids learn to mind and even crave a structure in their life.
Parents create and enforce limits to TV, Video games, and cell phones	The research on technology and social media addiction is real and it's not going away. Parents that build behaviors resilient to setting down their addictions also train students who can do it in class.
There is a designated location in the home for school work	The bed doesn't count. When in bed, the mind should be thinking about sleeping not school work, and when doing school work, the brain should not be in the area where it wants to sleep. A well lit area free from distractions is absolutely the best option.
Parent supply consistent and robust access to the internet	School work will absolutely require internet access for a number of reasons. Having a robust connection to it makes the work far easier and less frustrating.
Parents ensure that meals are available and nutrient filled	You are what you eat and the body has very specific requirements to facilitate growth and clear cognition. Those requirements do not include "tasting amazing."
Ensure child has been taught respect, kindness, tolerance,& timeliness	These are all incredibly important behaviors valuable for forging productive connections with teachers, but also to maintain a positive work demeanor later in life.
Ensure the child has experienced failure, frustration, to reach success	Student 'grit' to stick to a task or a challenge despite it being difficult might be one of the most important traits on this whole list.
Parents opt for personal time and attention over material assets	More times than I care to recall I saw students who's parents are generally uneducated manual laborers *(personal observations from working at a low-income high school)* and they waltz in with $150 dollar Jordans and an iWatch. This only occurs because parents opt to work two or more jobs to buy their kids' obedience rather than spending the time with them to make the kids better people and learners.
Parents reach out and connect to each of the student's teachers	Opening the portal to parent teacher communication can win a lot of favor with a teacher. This is especially true when the parent initiates the connection and helps maintain it. Teachers want to talk to the parents and will bend over backwards for parents who make an effort to build communication channels.
Parents supply academic support	Not all parents are able to help with all grade levels of academic study. That's OK, because the parents can facilitate interactions for their kids with people (or AIs) that do understand the subject and can assist in the learning process with minimal effort. Parents demonstrate grit by searching to find the student the help they need.
Parents provide a healthy and mediated access to AI	Generative AI will be the tutoring force of the future. Most of them now can answer questions through voice chat. Not to mention the creative capacity AI has to support academic work aesthetically, raising the bar for project quality.
Parents keep the home organized and clean	A disorganized home leads to a disorganized mind.
Parents do not over burden child with household chores or jobs	This includes taking your kid to the worksite for free or cheap labor on the weekends. *(again I say this because I've heard about this happening dozens and dozens of times.)* Students who are over burdened with work the parents should be doing have less time and energy to master their school work. Over-burden applies to excessive sports, too.
Parents emphasize and prioritize school	This means keeping the academic schedule as close to normal as possible all the time. If a parent has a sister or bestie that wants to have a party on a school night, the proper response is, "*no thanks... it's a school night.*"
Parents minimize absences from school at all costs	This means dental appointments happen AFTER school and if it can't be avoided, the student comes back to school. Parents put in extra effort keeping the kids healthy because healthy kids get sick less. Minimizing missing time also means NOT taking the kids out for vacation in the middle of the semester for two weeks (or any weeks).
Parents provide extra-curricular experiences to cement learning	This means that parents take trips not just to Uncle Dave's house, but to the Grand Canyon to experience a million years of geological work. It means going to natural history museums and not just baseball games. It means summer camps where kids learn how to build forts and work together to make trinkets out of leather. Every one of those experiences creates a neuro-sensory bed of memory by which other academic information can be quickly associated and memorized. Wonder how some kids just pick up concepts really fast, this is part of it!

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THE TEACHER'S SECTOR



WHEN THE INSTRUCTIONAL SECTOR OF THE TRIPOD IS STRONG:

The teacher sector is a combination of two factors, the teachers themselves, and the interaction, support, and relationship the administration has with any given teacher. When teachers and admin are in a state of high potential, this is what one might see…

Administration:

Supports and promotes innovative teaching practices. When ever possible, they ask about innovative new practices teachers are playing with. Show interest, brag, and help others learn from these innovations win the respect of some of the site's hardest working instructors.

Collaborator with the instructional staff not as an overseer. Servant leadership is the most successful model for promoting teacher innovation.

Provides reasonable discipline support. When teachers need back up, strong admin will provide that support without question and with the additional aim of working with the teacher to help widen student management tool sets to prevent sending kids or the same kid up too frequently.

Maintain strong network infrastructure and technical support for devices. Student learning has become very tech-laden. Network "Up Time" is an absolute must.

Tolerant, perhaps even supportive, of experiments with instruction that fail - This support is especially true with new teachers. This supportive nature wins the trust of new teachers quickly.

Teachers:

Prepared each day with a clear plan and intentional objectives to attain for each content area.

Provides a structured and safe environment where the students feel respected, supported, and heard. Most importantly… heard. This is especially true in secondary settings.

Utilizes advanced instructional and behavior strategies to maximize all students' efforts in their classroom experiences.

Provide timely feedback or have automated systems that provide immediate feedback on formative assessments.

Try to know the students' personalities, strengths, and deficits. Moreover, investigates anomalies in student behavior that seem off.

Present open communication to the students about your own feelings, hopes, and future plans. This communication opens pathways for conversations that help students see a purpose and value in their investment in school.

Accept responsibility when failures occur at their hand. The open and collaborative stance is especially appreciated by older students (middle and up) due to the transparency. Students tend to be savvy in ways they sometimes can't explain. When plans go sideways, and it's the teacher's fault, they know it. Denying it only degrades the students' trust and respect for the teacher.

WHEN THE INSTRUCTIONAL SECTOR OF THE TRIPOD IS WEAK:

On the flip side, these are conditions one might see or experience when the teacher sector is operating a low potential.

Administration:

Repromands teachers for creativity. Not every method will succeed. Some will fail to bringing about the ire of the parents. Backing the parents over the teacher is a highway to distrust from the teacher. Parents will eventually leave the school, staff could be there for decades. Choose longevity.

Sends students back to the classroom with no disciplinary follow-through. While, some teachers will absolutely abuse this (see teacher weakness), giving problematic students a free pass back to class weakens the teacher's ability to enforce rules and maintain a safe environment. If a student is so bad that you need to evict them. It's not a punishment for them, it's what they wanted. Think about that for a minute.

Does not advocate for high-performing and maintained learning tech from the district office. Most teachers have a narrow window of tolerance for trying new technology. When no training is provided or old tech isn't maintained or upgraded, faculty will "quiet quit" key technology or give up on tech that could be revolutionary.

Supports teachers who are clearly incompetent. Nothing kills moral or motivation faster in a faculty than administration that support incompetent faculty (or any employee for that matter.)

Teachers:

Waste class time preparing instruction when it should have been done at home or before class.

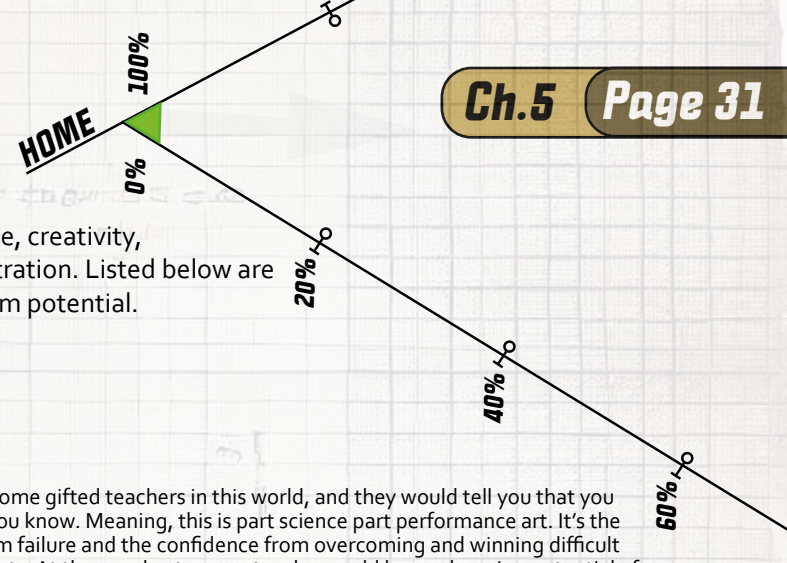
Fails to build caring relationships with students where trust is paramount and understanding with flexibility is foundational. Teachers that run "my way or the highway" will ALWAYS be less effective in the long run especially in a multi-cultural environment.

Never owns mistakes. We all make mistakes and kids know it. Weak teachers will blame everything else but themselves. Not acknowledging those mistakes erodes trust between the teacher and the students who know better.

Willfully ignore critical psycho-social, behavioral, and cultural elements as well as seeking to find students' skill sets. Weak teachers will claim teaching is their job, not to waste hours and hours learning about the students.

Take days, sometimes weeks to return graded work. Every piece of research ever states that timely returned evaluations benefit the student in profound ways.

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WHAT DOES A 100% FOR THE TEACHER LOOK LIKE?

The "full potential" teacher is a combination of their own disposition, knowledge, creativity, willingness to learn, humility, flexibility, and their relationship with the administration. Listed below are criteria you would see when the teacher sector is opperating at or near maximum potential.

THE FULL POTENTIAL TEACHER:

PROFESSIONAL TRAITS

Teacher with 5+ years of in-classroom experience	There have been some gifted teachers in this world, and they would tell you that you don't know until you know. Meaning, this is part science part performance art. It's the swag one gets from failure and the confidence from overcoming and winning difficult parents and students. At the very best, a new teacher could have a learning potential of 70%. If one thinks about all the lessons learned in the first 5 years and where a teacher is professionally in contrast to their first year, one might even say 70% is too high.
Teacher researches, owns, and deploys innovative methodologies	This also takes time to do. As you know now, age, demographics, biological gender, home life, and culture are all variables that determine the most effective approach to teaching any group of students. The full potential teacher never stops investigating the psycho-cognitive variables of the students.
Teacher has full creative flexibility and support from the site admin	Unfortunately, this element isn't in the absolute direct control of the teacher. With some behavior modification strategies and a lot of donuts, one could move this factor a bit. However, if a teacher isn't fully supported by the admin, the ding to the teacher's confidence lowers they potential and become less effective.
Teacher has evidence of advanced learning	The Eduneering Initiative was built around this concept. Once a teacher has been trained on the intersection of technology, psycho-cognitive awareness, and creative thinking, the evolved version of that teacher won't be a 2.0 version of themselves, more like a 5.0 version of the old teacher. A teacher with a vast understanding of the subject always brings more to the table. Though, it should always be mixed with advanced methods to bring that knowledge to the students.
Teacher constantly seeks highly evolved technology integration training	The full potential teacher never sees themselves as someone who is at full potential. That stated, the modern student requires the teacher to know their tech-rich world and be a master of it, able to meet the student on their ground. Though slowly, educational technology will never stop changing. A "what's next" mind set will always help ensure a full potential attitude.
Teacher facilitates quick, supportive, fair, flexible, and accurate feedback	Learning is controlled and collaborative dance of feedback between the student and the teacher. All the research ever written on this topic states quicker feedback is better. Being honest, but flexible to growth adds a level of power to a teacher's instructional influence. Students blow it and self-destruct. It happens. If a teacher embraces honest corrective feedback with opportunities to grow, everyone's potential rises.
Teacher has stable pathway for ELL access to the curriculum	Bilingualism helps, a lot! But not everyone has the ability to access that skill nor is every teacher working in an area where this element is going to make a significant impact on the total learning potential for the class. AI has presented a cost effective path way to translation with copy and paste translation as well as live on-the-fly audio translation. These tools will aid in keeping a teacher at full potential.
Teacher is a master at class management and relationship building	It could be argued that a master relationship builder would also be great at class management. Moving students in a direction they likely don't want to naturally go takes the leverage of a strong interpersonal relationship between teacher and class. This takes a bit of time, but full potential teachers can reach the full trust of a class in very little time. One might also argue that well thought out curriculum and event planning takes care of 95% of all class management issues. I would agree with about 75% of that with today's rather entitled student base.

PERSONAL TRAITS

Teacher possess a joy for the subject area or grade level	This joy isn't something that can be faked for very long. Witness someone that's been in the same grade level for 10-15 years and you can sense the inherent joy they have for their day-to-day interactions with the students and their mission as a teacher. There's more smiling, more high-fives, more questions about the kids and the lives they live.
Teacher has demonstrates a will and a want to interact with students	This goes beyond just instructional interaction. Relationships are built when you ask a student about where they got their shoes or attend the loss of their favorite football team. A teacher that *tends to* stay in their room at lunch to interact with the students is a solid indicator for this trait. Though even they, from time to time, need a break from the neediness of their students.
Teacher is highly skilled at cementing trust with students	Trust is the first step to building an influential and collaborative connection with a student. Things like knowing something about their family, interests, attending their sporting events, giving students some measure of vulnerability, admitting mistakes, and presenting one's human side builds trust quickly. Additionally, the skill to repair trust when that relationship goes sideways, and some do. The big deal is the effort to mend.
Teacher projects "soft boundaries"	Simply put, a teacher that projects a demeanor of approachability regardless of their inner stress or turmoil. This ability takes time, loads of self-awareness, and emotional self-discipline. Soft boundaries also imply a temperament that doesn't explode or "go off" on kids... ever. That's a MASSIVE breach of trust. The communication, regardless of the subject is conducted with logical caring calm of a cool mind. Like Jedi training, this skill takes years to perfect.
Teacher "Walks the walk"	In other words, if the teacher demands preparation for class, they are always prepared for class. If the teacher pushes the students to be better, they push themselves to be better and they project this trait to the students so they all see how the teachers is the lived example of their own expectations. The teacher lives this ideology in and out of the classroom.
Teacher earns respect without demanding it	All too often young teachers demand respect because of their title as the teacher and leader of the classroom. Today's student has much less respect for titles and care more about reciprocating trust once it has been demonstrated to them. Trust MUST be earned through walking the walk, promise then deliver with great consistency. The teacher lives this ideology in and out of the classroom.
Teacher projects an air of inspiration and forward thinking	Forward thinking and practically supportive of their own dreams as well as their students. Share future plans and goals. Feel free to demonstrate that will to dream never leaves.

THE STUDENTS' SECTOR:

WHEN THE STUDENT SECTOR OF THE TRIPOD IS STRONG:

This sector is arguably the most important. This is where the responsibility for a good education begins and ends. The student's sector has a number of criteria that indicates the student is operating in a high state of potential...

An open communication channel is established between the teacher and the student for clarification and relationship building.

Students make notable efforts to find value in what is taught to support intellectual engagement and to allow time to learn the material.

Uses "I can" language to promote resilience when subject areas present a challenge.

Try to monitor and keep a respectable amount of hours at night dedicated to sleeping. A tired brain is far less efficient.

Mind the diet: Junk food is emotionally satisfying, but if you put crap fuel in a high-performance engine, it will only reach a fraction of its potential. Done frequently enough, it could even destroy the engine completely.

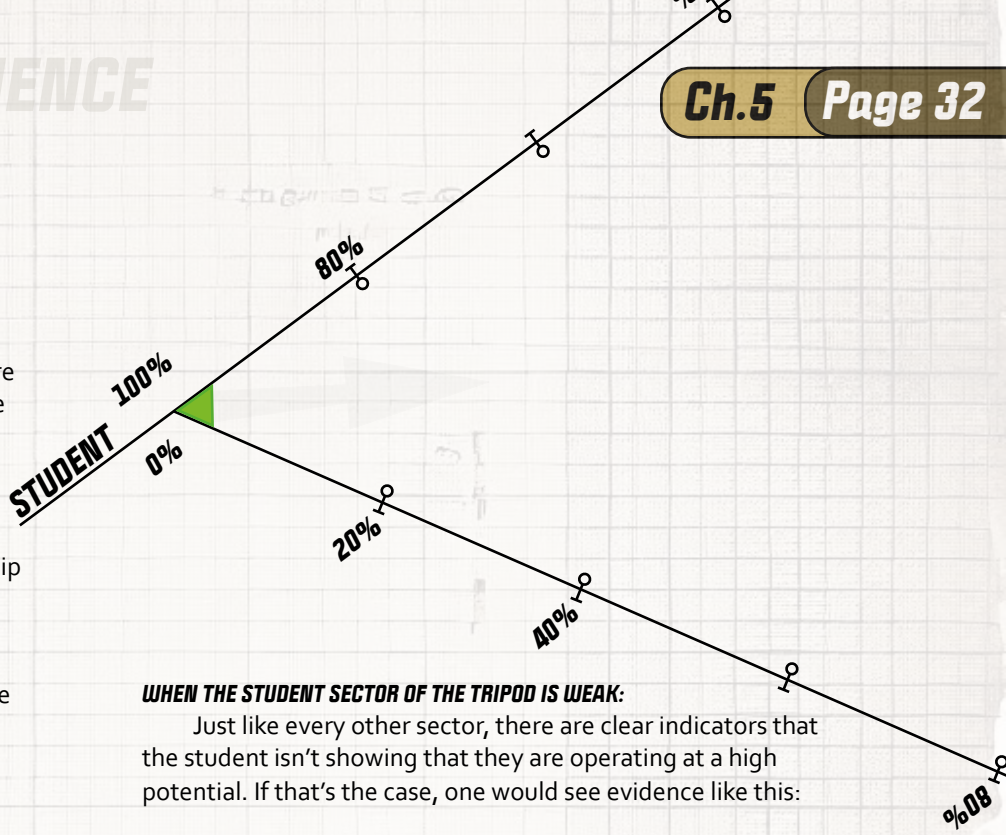
Heed the parents and their directions. It's hard to do this when the parents are not holding up their sector very well. This may involve being your own parent and make the right call for them.

Mind the use of cell phones and electronics to keep focus on the taste in school. Yes, school is boring. It has been for thousands of years. Get over it and do your job, kid!

Seek help when they are stuck and do it with the least possible delay.

Showing up on time. This is a life skill, and a lack of proper time management makes people jobless all the time.

To the extent possible, **maintain emotional control over themselves.** An emotionally compromised brain is useless for learning.



WHEN THE STUDENT SECTOR OF THE TRIPOD IS WEAK:

Just like every other sector, there are clear indicators that the student isn't showing that they are operating at a high potential. If that's the case, one would see evidence like this:

Students easily give up or are diverted to social media or phone apps because they cannot find the emotional value of investing their time and energy in class. Gifted teachers can sometimes instill that emotional value, but the parents truly have the greatest impact on the student's emotional values with school.

Complete disregard for timeliness, both with assignments and class arrival to classes or meetings.

Don't make an effort to make solid dietary choices and neglect the impact it has on their ability to focus and produce quality results in school.

Allows themselves to get involved with emotional drama and social turmoil frequently. Which could be connected to excessive connectivity to social media.

Delays asking questions to alleviate sticking points in the curriculum. The longer that roadblock exists, the greater the possibility that the roadblock will become a permanent road closure.

Allowing the emotional gratification of staying up late to engage in gaming, social media, or other online shenanigans at the cost of much-needed sleep. In rare instances, chronic abuse of this practice will degrade the students' ability to maximize the learning opportunities at school.

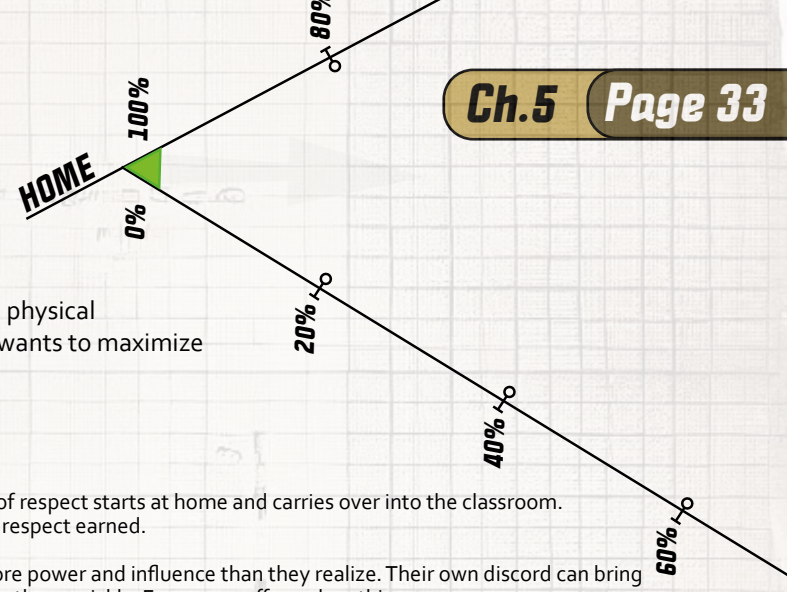
28 YEARS OF OBSERVATION: A LONGITUDINAL COMMENTARY

The SEL movement to have teachers and schools take over the task of maintaining the students' emotional equilibrium. It's taught extensively in teacher preparation programs, and nearly half of all the teacher in-services and professional development centered around SEL. However, after reading the previous dissection of Tri-sector responsibilities, an "uh oh" feeling may arise.

Despite what people may think, there is a limited amount of time and energy instructional staff have to allocate to instruction. Much of that time is now absorbed by doing the job the parent's section was originally obligated to complete. That parental axis of the Tri-sector has now destabilized the student and the teacher and, consequently, drastically reduced the student's opportunity to get the same outcome as students whose parents took their mantle of responsibility, their sector, as a sovereign task.

Sadly, parents everywhere embrace emotionally satisfying spending and irrational indulgences at the cost of properly upholding their responsibilities as parents *as a sovereign task*. Parents need to be parents, and buying their children's cooperation or favor can mis-step one of the most important aspects of parenting: ***Discipline.*** The student's disposition in school can be the make or break long term success. Parents lay the foundation for that success: To ensure respect, discipline, and demeanor are taught at home so the schools can focus on what schools do best. Politicians don't win elections by telling their voting constituency they are bad parents.

But... this is what happens when they don't.



WHAT DOES A 100% FOR THE STUDENT LOOK LIKE?

There's no magic formula to the high-potential student. While their state of mind, physical health and their access to resources is in the hands of the parents. A student who wants to maximize their potential for school would demonstrate these indicators.

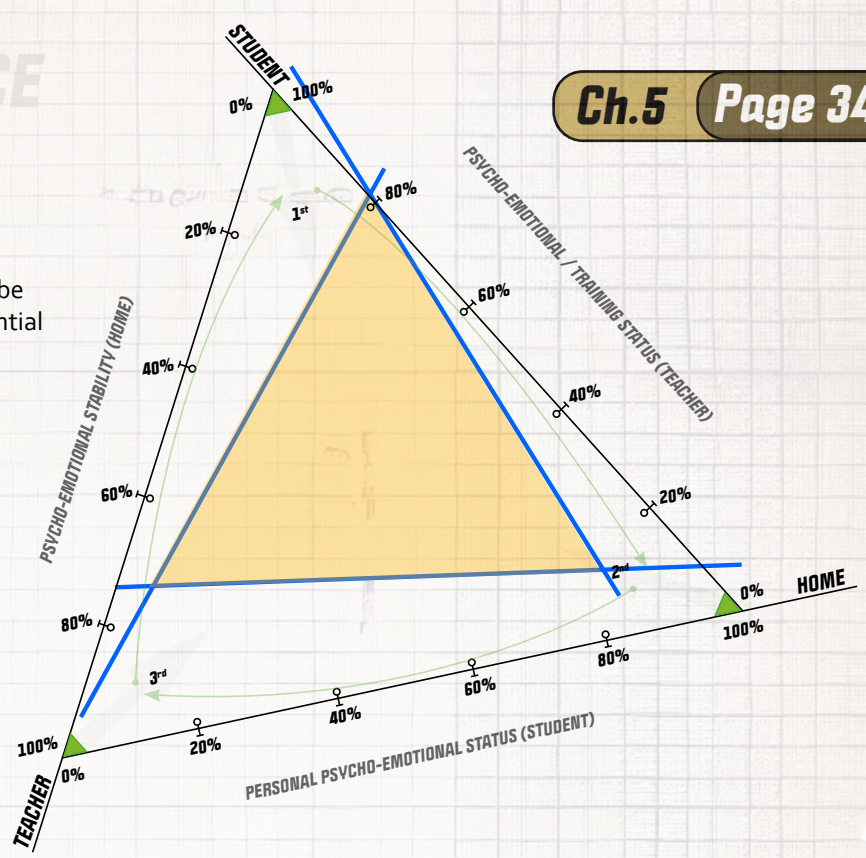
THE FULL POTENTIAL STUDENT:

@ HOME: Student respects family to have that respect reflected back	The disposition of respect starts at home and carries over into the classroom. Respect given is respect earned.
@HOME: Works to maintain home as a conflict free zone for everyone	Kids have far more power and influence than they realize. Their own discord can bring about discord in others quickly. Everyone suffers when this occurs.
@ HOME: Respects parental schedules and implied limitations	Kids work to respect the limitations with the knowledge (and parents need to sell this) the schedule and limitations on technology are there to make them champion students.
@ HOME: Student uses the dedicated work area consistently	This means work occurs at same place and same time during the day. Human biorhythms vary. A time should be selected where the student is wide awake and feeling energetic towards productivity. Find that time and stick to it.
@HOME: Prioritizes school over social life	This means the all night buddy "Repo" fests online don't go past 11:00 PM. Especially on school nights. When there's a party of some sort of hang-out during the school week, the students are back at a reasonable time or just pass on the hang out all together to promote the best physical and mental conditions the following day.
@HOME: Encourages parents to get nosy about their school work	When the parents ask you to explain the top three most interesting learnings of the day, you put some real effort into providing well thought out answers. The quality of the conversation encourages parents to want to converse with you more.
@HOME: Students ensure that they are getting 7-9 hours of sleep	Sleep is when your brain processes the day's learnings, and other sensory experiences. That work takes time. Give the brain the time it needs to clear it's work space for the new day.
@HOME: Seek out nutrient rich food	Often it's not the best tasting, but your responsibility is to eat the KEY nutrients the body needs to effectively grow the body AND the brain. If those KEY nutrients are missing from the diet, growth of body and mind becomes limited or stops.
@HOME: Student seeks to shut down technology 1 hour before bedtime.	This is the psycho-behavioral research that noted 60 min of no screen access provided students with a more effective night's sleep.
@SCHOOL: Seeks help from teacher when there are "road blocks"	A road block is ANYTHING that keeps you from understanding a process or a concept. Road blocks can be procedural in nature, and if one gets stuck on step three… that's where the learning stops. Nothing beyond that gets remembered. So removing those blocks is priority #1 for success in school.
@SCHOOL: Demonstrates 'grit' and doesn't give up on hard tasks	As stated before, grit is something that is learned and might be one of the MOST important traits any student can have. Demonstrating grit impresses teachers and buys assistance from them every time. *(Teachers love helping students that show effort).*
@SCHOOL: Student commits to work ownership and personal quality	When the student owns their work, they realize their work IS A REFLECTION OF THEIR PERSON, THEIR CHARACTER, AND THEIR MIND. All school related work should be owned with a sense of personal investment on the final product.
@SCHOOL: School work is prioritized over everything	Your buddies want to hang out at lunch, but you're still not sure about how to find the exponent of a math equation, the full potential student stays in at lunch and gets the help.
@SCHOOL: Student massively restricts cell phone use during class	Phones = distraction and the brain cannot focus on two things effectively at once. It's either your phone or your work. It's never both.
@SCHOOL: Student has a healthy respect for AI	The temptation to use it for everything is huge. The full potential student only uses it when the AI enhances learning, and not for cutting corners.
@SCHOOL: Student works to push creative limits	Often referred to as the "One step beyond" principle, full potential students will always ask themselves about how they can take one extra step to make their work more awesome.
@SCHOOL: Student seeks to build productive relationships with teacher	Ensuring the teacher knows your name (for the right reasons) builds you a powerful ally when you need a little assistance. Teachers will turn themselves into a pretzel for students they like and feel that their efforts will be appreciated and respected.
@SCHOOL: Student seeks to avoid social strife and conflict	Emotional conflict destroys academic focus like a torch in a house full of dynamite. If the mind is emotionally wrecked, all of the students abilities to think and focus are toast.
@SCHOOL: Student avoids relationships that distract from school	Easy to say, hard to do because distracting people is emotionally engaging and fun. This also applies to boyfriends and girlfriends. While this might fall on deaf ears, it's best that one DOES NOT have a romantic partner while in middle school or high school. These are some of the most emotionally fragile times of a young person's life. Messing with it can cause irreversible damage from the focus time lost in class thinking about how the relationship went so terribly wrong.
@ SCHOOL: Engages in extra-curriculars ONLY if school work is unaffected	Extra-curriculars get people into college and often are the opportunities that house some of the most enriching times in school. And it's for that reason, that these extras can become the primary focus.
@SCHOOL: Develops partnerships not just friendships	The difference being, partners make each other better. They build off each other's strengths and learn from each other to make both better. Friends are socially and emotionally necessary but do not really add to the one's personal status of inner quality.

APPLICATION OF THE "SECTOR DIAGRAM"

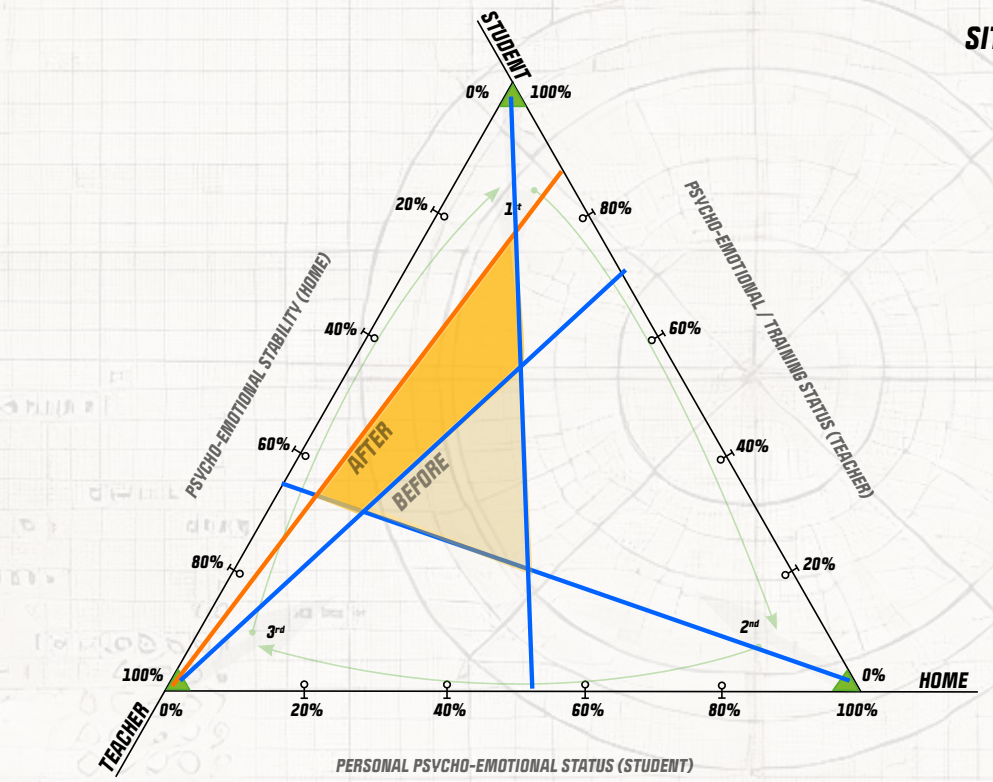
The educational process is, at minimum, is an intersection of three powerful sectors of a human child's learning potential at any given moment. Each section must do its job for the opportunity to be maximized. Sector diagrams illustrate the maximum learning potential as a colored section in between the three intersecting lines. As any one of the sectors improves the total area of the potential diagram increases even if the other sectors do not. These three factors form the foundation for student learning potential. The technology can and often does enhance each side when intentionally used by the students, teachers, admin, and parents. The sector diagram also allows one to view from three dimensions that no student is coming stepping into your classroom with out issues of their own.

Many have waged war on equity, demanding that we get all the kids to the same point and have the same outcomes. While a noble effort, is logically unsound. One cannot… ever… make the promise that everyone's outcome will be the same, only that the opportunity to have that outcome has been provided.



The Eduneering Program Goal: The Eduneering Initiative aims to provide the bleeding-edge psychological, technical, and creativity training to the worlds best instructors to enhance the learning potential of their students.

As an illustration: The Tri-Sector Learning Potential Diagram provides an honest projection of the impact Eduneering skills can provide to any learner. Analyze the following Sector Diagrams and estimate the increase in learning potential for each situation.



SITUATION 1: BUILDING UP THE TEACHER

A student's in a lower-middle class home has two siblings that he takes care of until parents come home around 7:30 PM every night. As the oldest, the student is obliged to help the parents as the second parent. School work is pushed to the end of the day where the he struggles to recall the information he picked up during the day. Tired and less motivated, he tries to work on his bed, where he falls asleep for two hours. We wakes up at 11:00 PM realizing he hadn't done any of his work for tomorrow. Lack of sleep and lack of preparation for the following day lowers the student's learning potential to 55%. The home is emotionally peaceful, but parents are often too tired at the end of the day to help with school work and do not provide options structure for out of school help. Giving the home learning potential 60%.

Home Learning Potential: ~**60%**
Student Learning potential: **~55%**

For the example, these numbers don't change.

BEFORE **Eduneering Teacher Training:**
The teacher is in their 5th year of teaching and is "in it for the right reasons" as some would say, a trustworthy, approachable demeanor, she is willing to help her students with what they need. She still teaches by the book and isn't overly creative. She's lacks skills for reading their emotional states and is rather clueless about the psycho-social differences between students. She only has a supplemental in her subject area, but willingly studies key subjects as they come to be knowledgeable.

Teacher learning potential: ~**70%**

AFTER **Eduneering Teacher Training:**
Teacher gains new insights into how to interest and engage students. Creativity rises and several of the more difficult curricular areas now have highly interactive Omnidocs that support instruction 24/7 - students get the key instruction to complete all assignments any time they need it. The designs are rough, but constantly improving with the students working with her as a beta testing team.

Teacher learning potential: ~**85%**

Training Δ = ~15%

SITUATIONAL ANALYSIS (TOTAL CHANGE IN AREA)

The learning potential for the teacher after completing the Eduneering Initiative Guidebook training moves the teacher's technical and creative capacities so that everything he or she knows is now amplified by her Eduneering training. Let's say the teacher's skill level due to Eduneering training increased only ~15% - when applied to the Tri-sector diagram - the volume increased by the triangle was close to 50%. As a result, he student's learning potential by almost double. **15% = 50% net gain (in graphical area)**. This situational analysis also assumes that the student's potential stays exactly the same, though that will likely increase, too as the teachers use their new skills to build relationships with the student and gain in-depth understanding of the student's head-space. Net area gain in the Tri-Sector suggests increased learning potential for the student.

THE SECTOR DIAGRAM PROVIDES PERSPECTIVE

SITUATION 2: THE IMPACT OF CATASTROPHIC LOSS

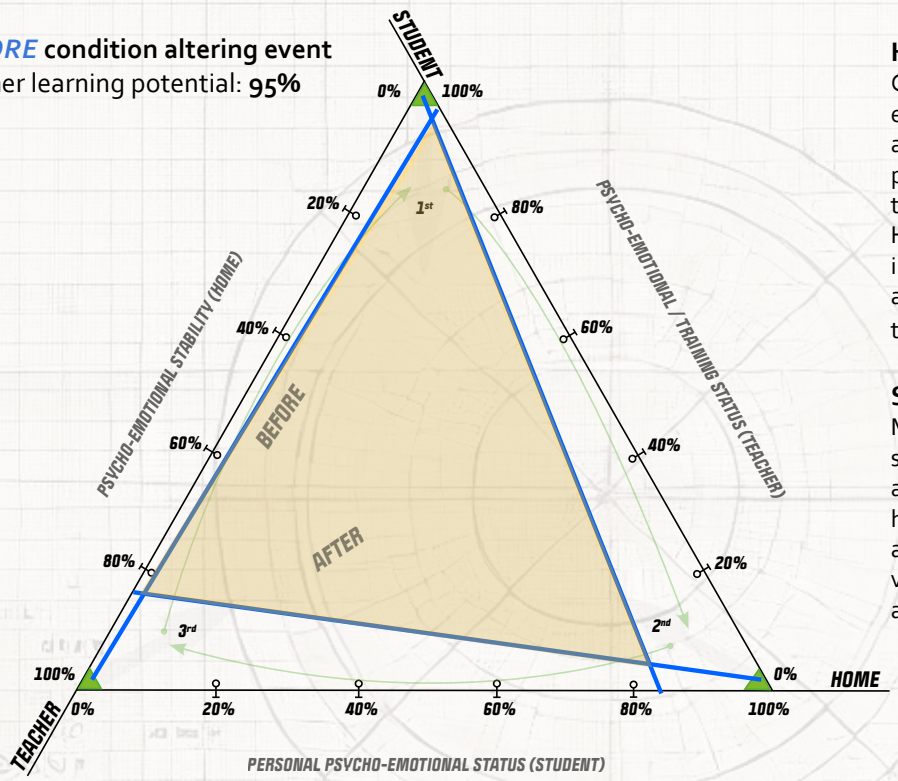
In this situation, we'll keep it consistent and focus on the teacher. We'll highlight how the teacher's psycho-cognitive behavioral state can have a huge impact on learning potential.

(Note: visual impact on the Tri-sector diagram would look the same if a catastrophic event have happened to either the home or the student.)

The teacher under analysis is a institutional icon. At her school, after 10 years of teaching experience, she is revered as one of the best that has ever stepped foot on the school campus. Her classes have waiting lists, as she has deployed many of the Eduneering foundational concepts without ever having been officially trained in them. Technically savvy, she often knows more about evolving technology than the kids do despite being a social studies teacher. Her school work is more about the expressive experience of learning than the absorption of data and assessment for the sake of data collection. Kids follow her like a superhero, parents thank her personally for the inspiration on their kids. Then, her personal life collapses. She is injured in a car wreck and she looses two of her fingers and her ankle has to be fused. Her school family and students rally for her, but her personal life collapses as her husband experienced life altering issues of his own and the combined stress breaks the family apart.

The flame is all but out for this teacher. A shadow of her former self, she shows up to school, but doesn't have enough life-force in her tank to maintain the work intensity she had in the past. She avoids projects that involve her hands, which includes a lot of digital work because typing is now a fraction of the speed she had in the past. Adding to the pain of slower production, her hands and ankle are in constant pain with no sign of that ever going away.

BEFORE **condition altering event**
Teacher learning potential: **95%**

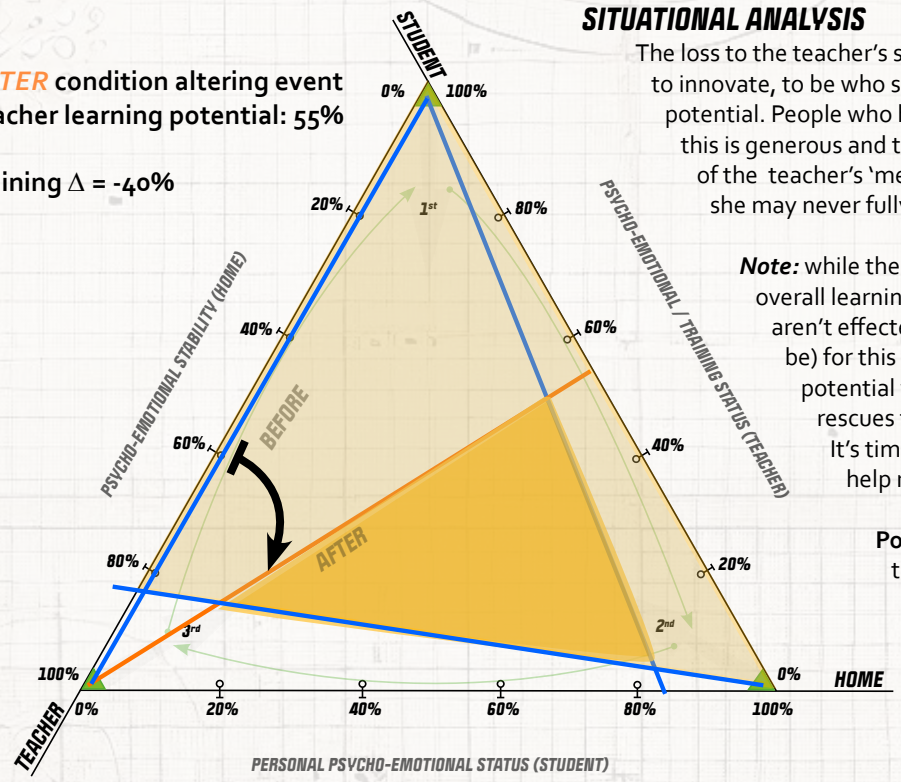


Home Learning Potential: 80%
Generally speaking, the community is socially and economically stable. While outliers exist, home lives are stable, school is a big priority for families, most parents are still married with mom or dad available once the students reach home. Resources are not in want. However, as a bedroom community lots of parent work, in many cases both of them. However, smart technology allows the parents to be accessible to the students at any time.

Student Learning potential: 85%
Mindful and generally respectful, the students come to school well rested and fed. While outliers always play a roll in generalizations, we find that the students also have a high degree of reverence for school and see it as a needed stepping stone to a successful adult life - this view largely due to the parental influence of a more affluent community.

AFTER **condition altering event**
Teacher learning potential: 55%

Training Δ = -40%



SITUATIONAL ANALYSIS

The loss to the teacher's sense of self, motivation, demeanor, willingness to engage, to innovate, to be who she once was took an incredible reduction in instructional potential. People who have experienced life-altering tragedies like this might say this is generous and the impact should be far more than 40%. This will be a test of the teacher's 'metal' to see if she can bounce back. However, it's possible she may never fully recover.

Note: while the instructional potential reduced by half, the potential the overall learning potential is still fairly notable. Assuming that the kids aren't effected by the teacher's change in disposition (and they will be) for this thought experiment we'll assume the students learning potential was not affected. Notice how the stability of the home rescues the losses incurred by the teacher's reduction in potential. It's times like this, that having strong parental and student sectors help reduce the loss of learning in this situation.

Point of Discussion: Under what kinds of conditions, would the teacher in this example be able to get her "mojo" back? Think critically. While the other two sectors might play a role, we can't bank on that. What course of actions could the teacher take to help her find her way back to who she was... or... perhaps, someone even greater.

SEMPER AD MELIORA
"Always Toward Better"
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OUR TARGET: 6 UBIQUITOUS LEARNING SYSTEMS

A NEW INSTRUCTIONAL PARADIGM: UBIQUITOUS LEARNING SYSTEMS



Images generated by Dall-E, Open Ai.
Prompt: Wide aspect ratio image of a high school aged male on his phone sitting on a bench in the school quad. He's speaking to an AI about information regarding his Geometry class. The shot is over the students shoulder where we can see the blue female AI who is beautiful, has a blue techno-appearance with long hair. She is teaching him basics of trigonal geometry. The school is seen in the background.



Images generated by Dall-E, Open Ai.
Prompt: Based on the previous image, blue girl sitting there an have the boy walking through some city streets. You can see the blue AI girl on the screen of the laptop. He has earphones on to hear the AI speak.



Click to hear ARAH's Commentary

During this time, educational theorists and technologists began to recognize the need for learning systems that weren't just mobile, but context-aware. Inspired by constructivist learning theories (Piaget, Vygotsky, Bruner), researchers started developing adaptive learning models that could respond to a learner's environment. Education was no longer just a static set of resources—it could be personalized in real-time based on where the learner was, what they were doing, and even their past learning behaviors. Many of the early invisioners of this idea were also the very first adopters of VR when Oculus was developed in early 2000s and into the 2010s.

By the 2010s, the dream of ubiquitous learning had become a reality. AI-powered educational platforms, cloud computing, and 4G networks enabled seamless, real-time access to learning materials. Students could begin an assignment on a laptop at home, continue reviewing it on their smartphone during their commute, and complete it on a tablet at a café—without ever losing their place.

My ubiquitous learning design program (*AREA154: Apocalypse Division*) would often find students taking SRTs (formative quizzes) in the car on the way to the airport, doing their ATNs (the training notebook where notes went) in the back seat of their mom's mini-van while she was in Walmart. Some of those intrepid agents even took the work with them camping!

But u-Learning was about more than just convenience. Wearable technology, Internet of Things (IoT) devices, and augmented reality (AR) tools introduced entirely new ways to interact with educational content. Medical students could practice virtual surgeries on AR headsets, language learners could converse with AI-driven chatbots, and workers in hazardous industries could receive real-time training through smart devices embedded in their work gear. This level of integration was a dream and one often considered but never had the funding or the time to investigate how it might work. That being said, we did have Agents download specific apps that would alter them of solar flares and world-wide earthquakes should they occur at any time of day or night.

So, not exactly the same thing, but a tool that could be used for learning which also functioned as a narariver immersed tool in the student's real world.

WHERE WE ARE TODAY: THE KEY FEATURES OF UBIQUITOUS LEARNING

The modern ubiquitous learning environment is defined by a few core characteristics:

Pervasive Access – Learning is no longer confined to a device or location; it happens across multiple platforms and environments, but the content is centrally located and available 24/7 on demand.

Context Awareness – AI-driven platforms adapt content based on a student's location, behavior, and prior learning history. Moreover, context extends to the theme or narrative (real or imagined) that flows continuously through the students learning experience out into their real world.

Adaptive Learning Paths – Real-time data analytics adjust lesson difficulty and suggested resources dynamically. At the very least, the students had access to the data to choose alternative sources of action for themselves. Typically, this real-time data will materialize as formative assessments that the site grades automatically and immediately. The results from those quizzes provide performance data on which new paths of study can bee applied.

Collaboration & Social Learning – Learning is no longer an isolated activity—peer-to-peer engagement is a core element. Communication to students that shared the same content but different classes could collaborate on the same project regardless of the period either of the students was assigned to attend.

Seamless Learning – Students can transition between devices without interruption. In practice, even gaming consoles could be (and were) used to take formative assessments when their school provided technology was non-responsive.

These features make u-Learningand it's a far cry from the early days of static e-learning, where students simply watched pre-recorded lectures. Instead, today's learning environment actively responds to individual needs, allowing for an interactive, personalized experience. Until the last few years, only the most rudimentary versions of u-learning was posible. The onset of AI is about to change how students can personalize their learning path
.



Image Generated by Dall-E, Opem Ai
Prompt: Create an image of a student on a hike in the Technochiclan ruins, she has a device in her hands and she is watching her screen to learn about the archeological site from downloaded documents about the ruins.



Image created by Dall-E, Open-Ai.
Prompt: Create a wide perspective image where it's split down the middle. One male high school student is in South Aftica on his computer chatting with another student that is in Miami on his computer sharing ideas about an assignment on ancient ruins

LOOKING AHEAD: THE FUTURE OF UBIQUITOUS LEARNING

Where is u-Learning headed next? Experts predict that AI-driven education systems will become even more predictive, identifying learning needs before students even recognize them. The rise of the Metaverse and extended reality (XR) learning environments suggests that classrooms of the future may be entirely virtual, interactive, and immersive.

We may also see brain-computer interfaces (BCI)—where direct neural connections allow students to interact with educational content without physical devices. Meanwhile, blockchain-based credentialing could revolutionize education by making certifications universally verifiable and tamper-proof.

But no matter what technological innovations emerge, one thing is clear: learning will no longer be a distinct activity separate from daily life. Instead, it will become an ever-present, invisible, and highly personalized companion, seamlessly integrated into every experience, every decision, and every action.

The era of ubiquitous learning is here—and it's only just beginning.

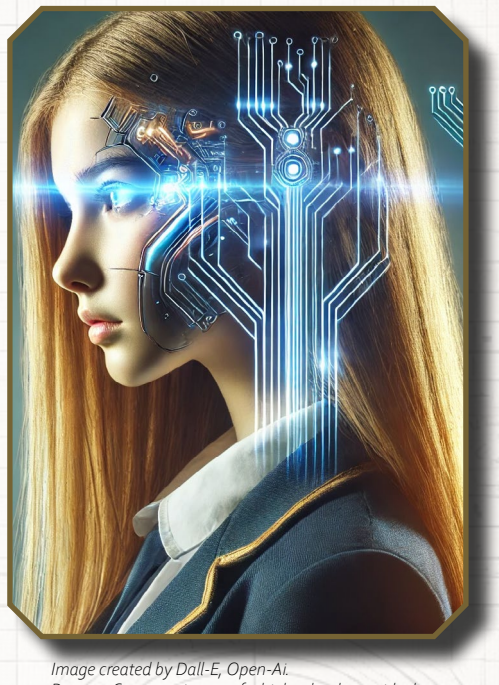
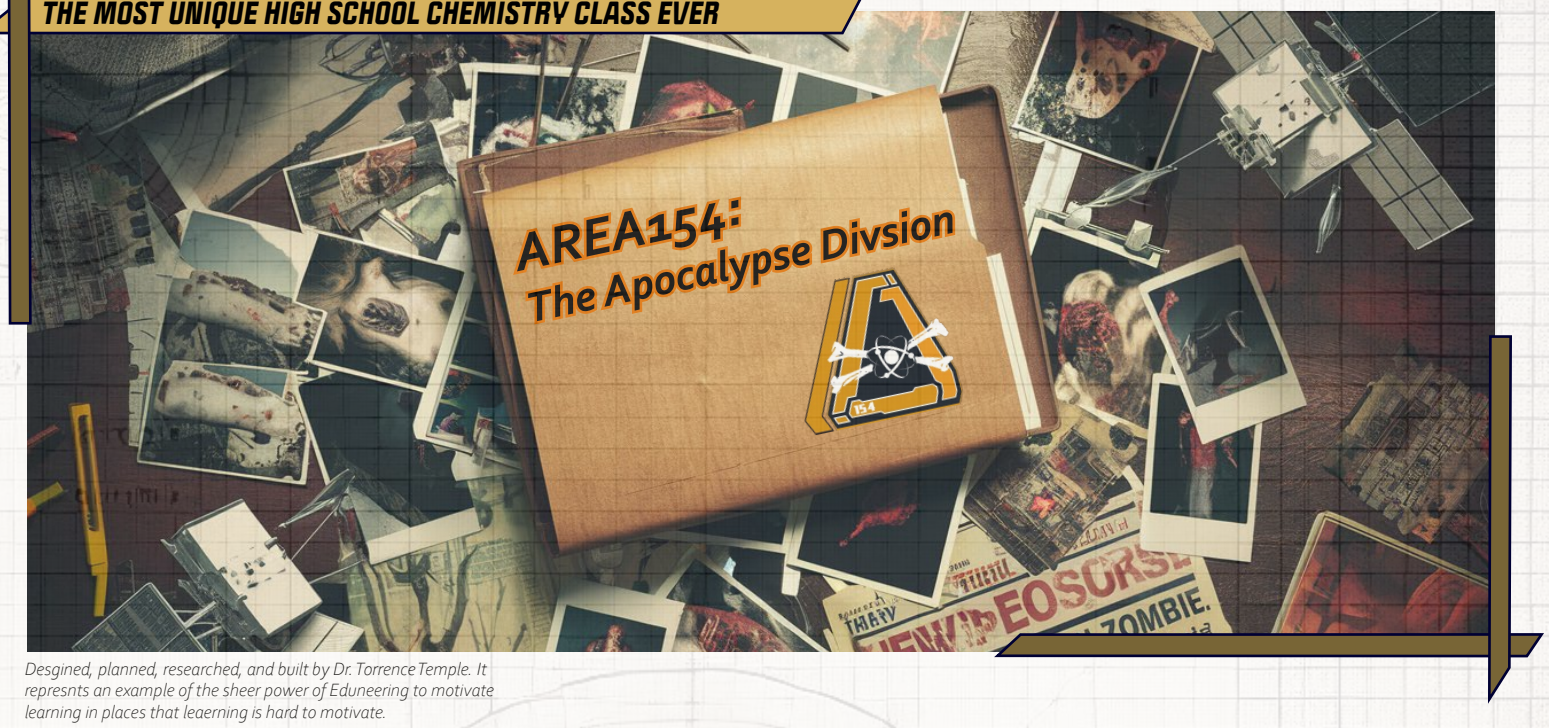


Image created by Dall-E, Open-Ai.
Prompt: Create an image of a high school age girl who has long blond hair. Part of her hair has been replaced by a high-tech patch that is directly wired into her brain. She has a special over her left eye that displays data to her to process., square aspect ratio

A LEGENDARY EXAMPLE OF U-LEARNING DESIGN IN EDUNEERING

While big in Japan, China, and Brazil in University settings, u-Learning has a very limited footprint in the West. Dr. Temple developed a u-Learning curriculum around chemistry, that had this been your class, you might have actually liked, maybe even enjoyed your high school chemistry experience. *Think that's impossible? Read some of the comments below.*

THE MOST UNIQUE HIGH SCHOOL CHEMISTRY CLASS EVER



Desgined, planned, researched, and built by Dr. Torrence Temple. It represnts an example of the sheer power of Eduneering to motivate learning in places that leaerning is hard to motivate.

Below are a random collection of comments taken from feedback forms about students' AREA154 experience and it's impact it had on the students over the course of the academic year. The comments are from the mouths of those who experienced *AREA154: Apocalypse Division* first hand. *(Note: Respondends were not required to put their name on their feedback.)*

"The experiences I had felt in this class were the most fun, crazy, and life lesson (filled) of all my classes. I will take these skills with me to use in the world if ever there is a catastrophe."
- Anon (Male)

"I had no idea any of this was even a thing! An amazing class."
- Georgia M. Junior

"This class is the best class I ever had. This environment is very creative, the lights, the notebooks, the tech and a whole lot of things."
- Anon (Female)

"This was my best class! To those coming next year, if you think you are ready for this... You are NOT READY! This stuff is crazy!"
- Anthony M, Sophomore

"I wasn't expecting my science class to be this amazing. I learned so many things that made me think about what can happen in the world."
- Natalie S. Sophomore

"Keep teaching this way because it makes learning fun and actually interesting. This was my most fun class; it opened my eyes to the real world."
- Brandon C. Sophomore

"This is the world's best science class."
- Ryan O. Sophomore (SpEd)

"I really enjoyed this class. I don't normally like science but this class made me enjoy it. This was my favorite class this year. I learned so much because you were teaching what actually grabbed my attention. I felt included even though I don't talk a lot."
- Annon (Male)

"This chemistry classs changed my life and changed my entire outlook on how the world works."
- Liliann Ruiz, Junior

If someone were to show me these quotes and asked me what these students were referring to, literally THE LAST thing I would have said was their high school chemistry class!



Image created by Dall-E, Open-Ai.
Prmopt: Create a wide image showing a group of kids in a chemistry class that have worksheets and chemicals on the desks. Have notebooks open, but a frustrated and bored look on their faces. Some of them are walking out the door.

People typically HATE their high school chemistry experience.

I've had small-talk conversations with grocery store cashiers about what I tought that made my day so long. When they found out I was a chemistry teacher, the reaction was visceral! A couple of times the cashier put their arms over their abdomen as if they were going throw-up at the sheer thought of recalling high school chemistry. And yes... some of you right now are having that very same reaction. And, you know, that's OK. Because, and I am dead serious, chemistry is THE HARDEST CLASS IN HIGH SCHOOL THAT EVERYONE HAS TO TAKE.
So, if your experience was bad, you're not alone.

AREA154: Apocalypse Division was born out of a necessity to aid a new breed of student that a traditional system seem to have let down. The traditionally taught courses at SJHS in Chemistry was yielding a near 40% failure rate from all types of students taking the courses. The principal at San Jacinto High School, we all called "Dr. J" told me as he exited the room, "Don't assign them any homework, it will never get done." His words served as my introduction into a brand new student head space. In Section 1, we talked about how psycho-social dynamics played into the students' lives outside of school and that we teachers had zero influence over that time. They needed a way to experience all the key instruction, content, and directions later at night, or in the back of a car, or while camping, or while on trips who knows where. Without knowing it, I was about to build the first u-learning chemistry course (I was aware of) in the US.

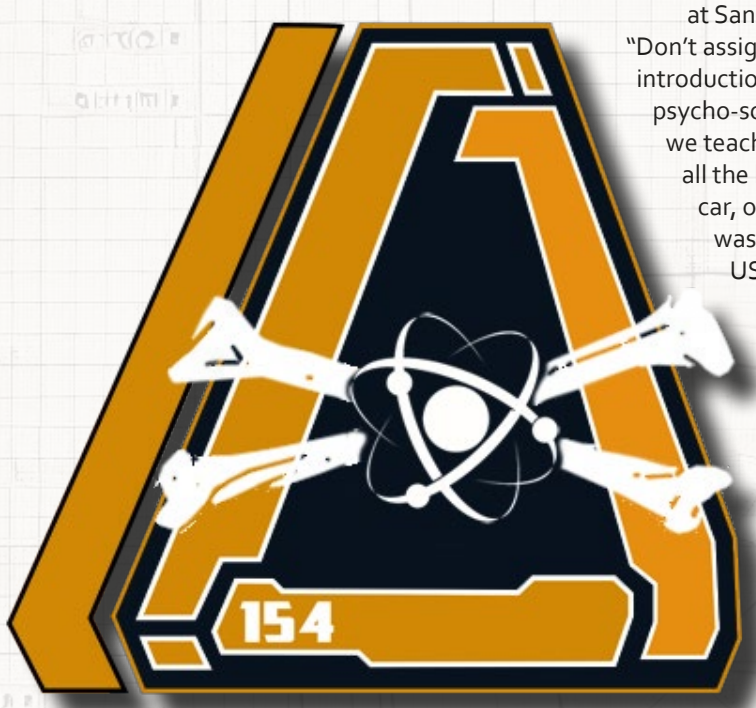


Image Designed by Dr. Torrence Temple for the AREA154: Apocalypse Division chemistry program (2017). This is the 2023 revised seal.

As most 1st year builds go, AREA154 had its successes, but it was also quite bumpy and had a lot of material that still needed to be added to really make it something that could support students anywhere and at any time. There were days when I realized I needed a link to an online calculator for the students to use to calculate molar masses because many of them didn't have calculators or the calculators on their phones were absolute trash. Between periods I would crack open my Omnidocs and add a calculator image with a link programed into it and have it saved and uploaded for the next class to use. Check out the video to the left for more perks and encouragement to invest in designing your own content... always.

By the start of the third year, as stated in my doctoral dissertation, the failure rate had dropped from 40% down to around 9%. Clearly something was working there, but what? What was the secret sauce that was changing the way that students were interacting with the subject, literally, the worst subject in all of high school? In a nutshell, that was the focus of my dissertation. I aimed to figure out the "secret sauce" of this u-learning system and figure out of the many possible answers, which were the most highly valued.

Taken from Table 2 of my dissertation, this chart is a break down of the u-Learning characteristics and how *AREA154: Apocalypse Division* addressed each of the u-Learning critera as presnted by Hwuag (2016).

"By the end of the second year of AREA154, the chemistry failure rate went from ~40% to ~9%. The program clearly worked. The bigger question beckoned... WHY was it working?"

- Dr. Torrence Temple

By 2018, the AREA154 Program had run for 2 complete years. The administration were in awe, never having see such a response to a science class before.

Click or scan this QR code *to download and view the entire dissertation for your own verification and research. 21 students were internviewed in depth over the 2020-2021 school year over Zoom. Representing all achievement levels, they disclosed the secrets behind the success of the AREA154: Apocalypse Division u-Learning program.*

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One of the first and most extensive examples of Eduneering design practices ever tested in a live classroom.

AREA154: APOCALYPSE DIVISION & UBIQUITOUS LEARNING QUALIFYING CRITERIA

Characteristics of a Ubiquitous Learning Environments	AREA154: Apocalypse Division Application of U-Learning Qualities
A centrally located hub (Network server centralizes the curriculum)	Hosted at server space area154.net, by MidPhase (2014-2023) Then at BlueHost.com (2024-current).
Lesson content can be accessed at any time.	Experimental sub-domain: temple.area154.net. Server and site access are open 24 hours a day. Uptime > 99.5%. Site access is monitored using the Simple History WordPress plugin.
Content can be accessed through any network-enabled device	Because the website is free of district-access parameters, it can be accessed through any network-enabled device. Experiences with the site may vary as its format changes in response to the type of device and type of network connection.
The user's interactions with the system can be stored and analyzed	The organizational aspects of the curriculum are handled by the Sensei (WordPress LMS plugin) Sensei is an LMS (learning management system) that presents material to the students after they create accounts.
Data such as quiz scores and course completion information can be accessed through student account.	Sensei also provides student assessment data for comparing sections, students, and classes.
The curriculum is real-world applicable, either theoretically or practically.	The curriculum was designed to present chemistry and associated STEM subjects as tools for increasing one's odds of surviving an event with world-altering consequences. The year-long curriculum contains five "case files" that teach students how to save themselves and their families. Instructions and support for learning new material are immediately available on demand.
Instructions and support for learning new material are immediately available on demand.	The case files are divided into four pieces of training, which can be accessed via an interactive PDF on the temple.area154.net website after students log in. The interactive training documents are programmed with "Director Briefing" icons that, when clicked, present a clear instructional video on what to do for each section of the training. The interactive "media icons" are programmed with links to videos that explain complicated content in different ways or provide screencaptured examples of how to complete procedure-based problems. Interactive icons called "check it out" link the student to new net-based media or images stored on the area154.net server. Multiple supports are accessible in this format at the students' whim.
Responses to formative assessments are immediate and provide opportunities for relearning and re-assessment.	Formative assessments, referred to as Survival Readiness Tests (SRTs), are presented in sections of ten questions. Students are presented with their scores immediately upon pressing the "complete" button. Students can use online materials to re-train and retake the assessment for a better score.



Click to hear ARAH's Commentary

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AREA154: APOCALYPSE DIVISION & UBIQUITOUS LEARNING QUALIFYING CRITERIA (CONTINUED)

Systems are usually thematically centered, with a central narrative and evidence of interactive gamification.	The student plays a member of a black-budget special-access program run by the U.S. government known only by an "AREA" designation. AREA154 operates in specialized high schools and trains teenagers, as the most resilient segment of the population, to survive the end of the world. The government calls this "Human Asset Recoery and Protection." A.K.A. HARP. The kids in the program call it the "Apocalypse Division." Rather than NGSS Chemistry. Badges and achievements are provided on the basis of user interaction and success with SRTs as well as voluntary challenges The Agent Leader Board (visable to all via the website) displays the top twenty-five students who have the most achievement points. Achievements can be completed at any time while a case file is active. These are thematically related and provide additional STEM opportunities for students.
The system adapts to the cognitive needs of the student.	Most of the adaptations to the student's experience come from the system designer. Many of the students present fairly uniform psycho-social behavior. As such, this system was developed to address the cognitive needs of the students using it.

Criteria for u-Learning provided by (Hwuang, 2018). Content cited from (Temple, 2021)



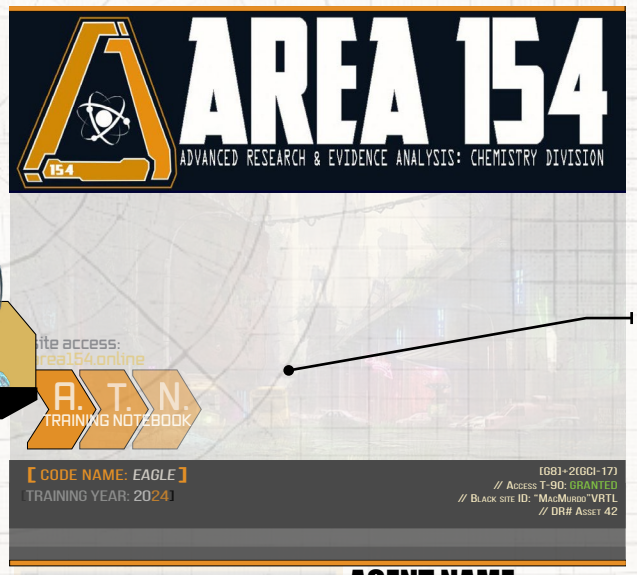
AREA154 had a badging system that changed as Agents (students) achieved more in the gamification element of the course.

This image is of a "Rookie Agent - 1st class



Click to hear ARAH's Commentary

See Appendix A for more resources associating handwriting and learning.



ATN Covers contained apocolyptic imagery as well as practical information such as the year the course was taken, additional class-specific code names, and the URL location for the program host site.

Agents (Students) were provided with "Agent Training Notebooks" (ATNs). These books functioned as the nexus for all training data collection, training work, images, and other notes - all stylistically synchronous with the theme of the course. (A KEY element to Eduneering is branding).

Functionally, providing students with thematically customized material ensures it does not get used for other subjects - a noted consequence after 8-years of implementation.

Our u-Learning check list (above) outlines the AREA154 uLearning system from a mechanistic standpoint. It describes how the system was inspired by Huang's (2016) inclusive definition of an effective u-Learning platform. The inner theme and narrative of the program were derived from two sources:

Laborda (2015) and television program CSI:NY. Laborda recognized the power of a narrative to present the notion that any content can be learned more effectively if embedded inside a narrative. This is especially true for game-based learning.

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CSI:NY also provided a significant design influence, as the program had researchers working as science c onsultants on blood suspension chemistry. TV-show consulting is not written research, but the show's design principles are soundly rooted in the psychological principles of cognitive dissonance. The lesson it provided was, "Show something that seems impossible and then slowly reveal science as providing clues to solving the case. At the end, curiosity is fulfilled and the dissonance is relieved."

As a side note: The statistical measure for an event to be "interesting" in the CSI:NY scripting world (according to the writing team I worked with) was ***1:1,000,000.*** The head of the writing team, Dana Melton told me their secret formula for event rarity. Any thing less than 1,000,000 to 1 would be too pedestrian and anything more would be too hard to believe. Which makes a lot of sense give, that the line between:

"No way!" - Shocked at the impossible reality.

and

"Pffft, Yeah right!" - put off by the implausibility.

CSI:NY'S MAC TAYLOR "RE-HYDRATES" A DRIED BLOOD SUPPLY



This was the scene I worked on with the CSI:NY writing team and Dana Melton to create. It was titled "Time's Up" from Season 4, Episode 4. The idea was to suggest that time travel was possible, but through some clever science sloothing, it's discovered that under just the right pressure, and temperature conditions a stain could look fresh again. It's a stretch, but the science is valid. Did they replicate those conditions on screen? No. But, they did use the word I made up for the process: "Blood Rehydration"

I did not get a screen credit as I'm not union, but they did send me a three boxes of props, including signed lab coats from the cast.

EDUNEERING, U-LEARNING, AND AREA154

In many ways, the lessons learned from AREA154's design, deployment, and study are the curating forces behind the Eduneering Initiative. I witnessed how the flexibility in it's design worked on a practical level, while the imaginative elements behind the theme engaged students in a way that no other class did. Eduneering promotes a different approach to viewing instruction. It's different and a little odd looking to traditionalists, but the success of the program suggests that we step back and evaluate what's possible in the world of instruction.

In honest reflection, I have to acknowledge that the number of teachers that would be able to pull off something like AREA154 completely on their own is ***fantastically low***. I acquired a wild range of skills that make me technically independent, but a a heavy cost. These are all skills I tought myself that didn't cost money but, cost of decades succeses of failure and having a lack-luster social life. That said, the Eduneering Intiative would provide an interesting niche for the fleeting number of ed-tech specialists that have been floundering around district offices country-wide unsure of what to do with themselves. I think I have an idea.

FOR DISTRICT ED-TECH COORDINATORS - LET'S RE-IMAGINE THE POSITION.

IDEA: I think it's time that districts consider changing their instructional technology departments into production departments filled with skilled visual designers that have my skill-sets, but are a dedicated team of people that can take the teacher's visions and turn them into reality, an entire team of Eduneering experts that have the technical abilities to develop new exciting content that might just get kids to voluntarily put their phones away.

PROOF OF CONCEPT: LeX university course designers already do for universities what the ed-tech department could do for grade levels and individual teachers. Faculty of universities (generally speaking) are specialists in their area of study and have woefully few technology skills to bear on their course designs. The online education movement in higher education has facilitated the need for those technical skills be present, thus... the need for dedicated media and course designers became a necessity. Imagine 2-3 Eduneering Trained sitting with teachers to make their "wouldn't it be cool if..." wishes become a reality.

The ***Eduneering Initiative encompases the u-Learning ideas***. It could be considered a type of u-learning execpt Eduneering puts a huge emphasis on creative narrative generation and overt creativity training towards the part of the teacher. Eduneering also puts a considerable emphasis on the teacher's ability to understand the psycho-cognitive and cultural facets of the students. With that filter, Eduneering trained instructors utilze their creative efforts and magnify engagement which yeilds better results. Students respond to this instructional approach. It would be deceptive to say the Eduneering approach is fast. It's now. But the time invested (and I speak from personal experience) will create life-altering learning experiences.

The *AREA154: Apocalypse Division* curriculum demonstrates how narrativized learning can take an idea, surrount it with wildly creative cognitive dissonance and apply it to uLearning some very intense and technical subject matter. Each case files shows the student ways the Earth could be irreversibly changed in ways that seem impossible to survive. Then, layer by layer, science is used to demonstrate that survival is possible. In the end, the student uses their experiences to prove they can save themselves, their family, and their fellow humans from certain doom. Learning becomes more than a grade. It becomes part of life itself.

EDUNEERING EXPLORED: DECONSTRUCTION OF AREA154: THE APOCALYPSE DIVISION (A-DIV)

THE AREA154 APOCALYPSE DIVISION MOUNTAIN ENTRANCE

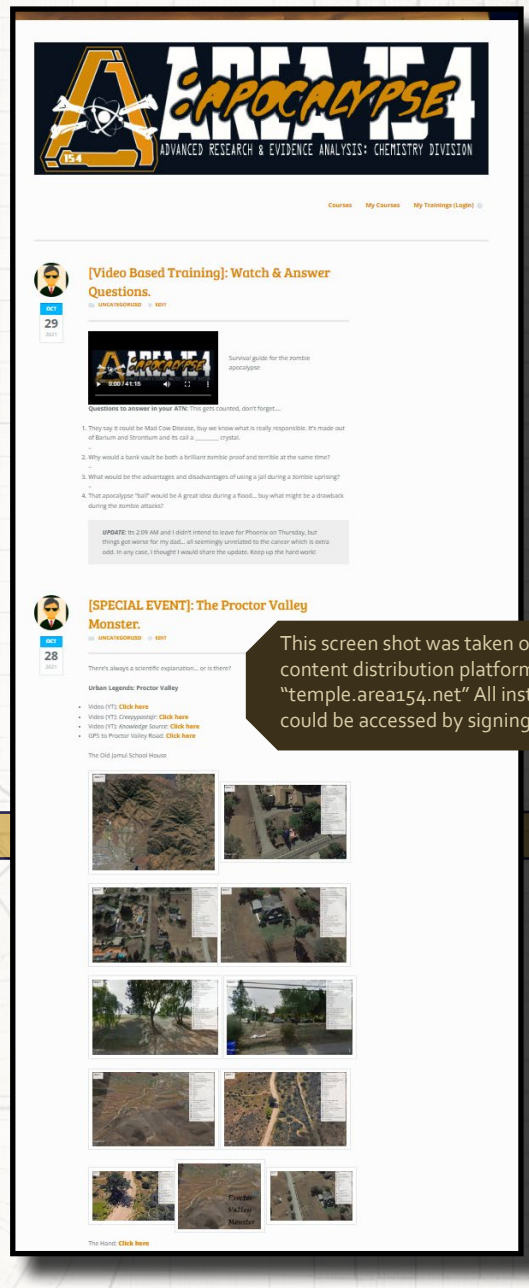


AI played a significant role in bringing visual ilfe to later versions of AREA154. This image produced by DALL-E still struggles with its text generation. Better options might be Mid-Journey or ideagram.ai.

First, before moving forward, I think it's important to note a couple of things regarding this project. One, it's huge. A-Div (Apocalypse Division) was built across an entire year one day at a time. It was refined and rebuilt many times over in the 5 years that followed. The program can be a little overwhelming to considere in its entirety.

However, the goal for the Eduneering Initiative is not for you to replicate that which has been done, but to enable the best teachers on the planet to bring their own visions into existence. Great Eduneering Designs could be just a single day, or a week, or over just one unit. Sure, it could cover the entire year like A-Div did, but that's really the call of the developer, you, it's your call.

The goal for showing you the mechanics behind the AREA154: Apocalypse Divion project is to illustrate possibilities and explain various mechanisms that can accomplish the u-Learning implementation goals.



This screen shot was taken of the AREA154 online content distribution platform, a website titled "temple.area154.net" All instructional content could be accessed by signing into this site, 2020.

APOCALYPSE DIVISION & THE RISE OF THE ARC AGENT

AREA154 ARC AGENTS HAD DIFFERENT LOOKS AND FEELS THROUGH OUT DIFFERNT CASE FILES







(ABOVE) - ARC Agents from the "Alien Invastion" case file have a much more collected, unified, and governmental look. Something that AREA154 could possible grow into in it's future when the program is fully underway.

(RIGHT) In the "Zombie Apocalypse" case file the ARC Agents are more residential and feel blended into the environment in which they were supposed to protect. You can also most see them as high school students using their skills to make medicines or generate clean water sources.

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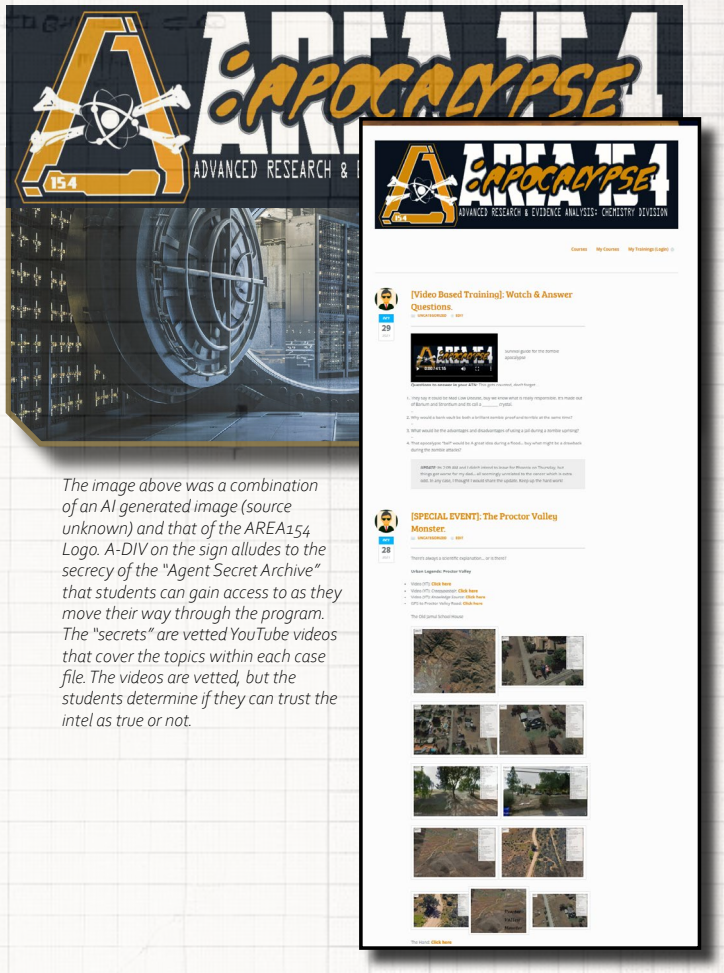
AREA154, LET'S BREAK IT DOWN

AREA154.online: The centralized hub for which all (or nearly all) of the program's content was contained. Having an online private domain played a pivitol role in managing my own content, uploades, site design, and file storage. There are other ways to accomplish the same goal cheaper, but not as effectively. Personal servers are awesomely powerful, but nothing is without it's share of headaches.

Below is a basic description for my private server layout

AREA154 TECHNICAL DETAILS BEHIND INTERNET SITE HOSTING:

The site was last hosted by:	BlueHost.com
Storage:	Dedicated server / 1 terabyte
Cost:	~$120.00 a month
Backend management:	cPanel
Content management:	WordPress v6+
Learning Managment:	Sensei - LMS (Paid Version) (v2.44 - could not upgrade past this as the gamification leader board would incompatible with new versions of the LMS.)
Encryption/security:	Wordfence - plugin (free version)
Gamification:	Sensei Leaderboard (Paid plugin)
Site graphics support:	Photoshop (Adobe Creative Cloud)



The image above was a combination of an AI generated image (source unknown) and that of the AREA154 Logo. A-DIV on the sign alludes to the secrecy of the "Agent Secret Archive" that students can gain access to as they move their way through the program. The "secrets" are vetted YouTube videos that cover the topics within each case file. The videos are vetted, but the students determine if they can trust the intel as true or not.

THE BENEFITS TO HAVING YOUR OWN DOMAIN:

Benefit 1: Having your own ".com" is freaking cool!

"So where do we go to get access to our class content?"
"Ah, yes, on any device, anywhere and any time, just go to area154.online."

In my experience students respected that I had my own "thing" going and it was distinctly ours and only we could use it. Moreover, students that were interviewed during the dissertation research phase indicated that having one single, easy to remember, place to get their work was definitely a positive.



Benefit 2: Total absolute control

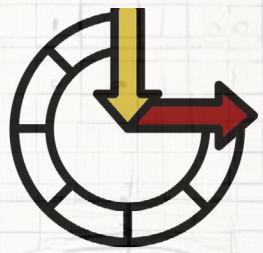
Lost password? Easy, got it. Need a reset on the quiz? Easy. Need to add or remove a student from the system, 2 minutes tops. I wasn't dependent on district staff or tech personell to do everything for me. If you're familiary with the "send in a ticket" mentality of problem solving is that it works, but not when you need it. When you are the domain admin, adjustments and configuration changes, happen when you need them to happen.



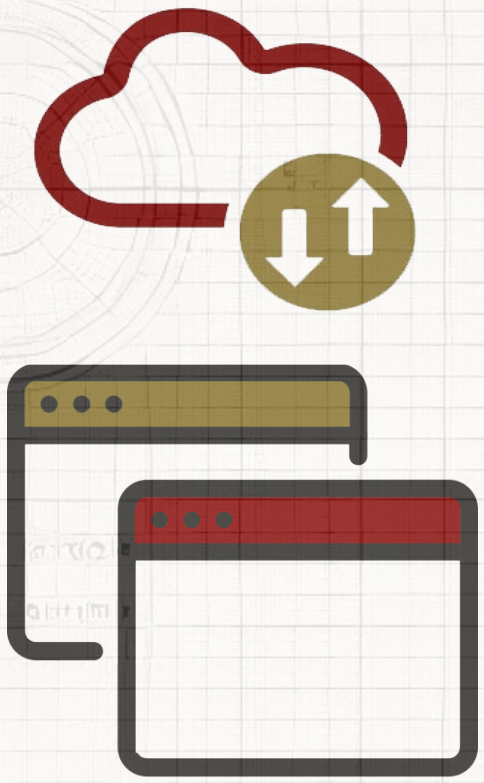
Benefit 3: Ease of access

The students at the high school I tought at used an SSO (single sign-on) system that would allow them to sign on once and then find their class websites in one place. It's not a bad option, but, it's cumbersome. There's the SSO sign-in. Then two more clicks to get to your schedule, another to find the class, then you have to find the Google Classroom post that you needed.

When you have your own site, the put in the address, and boom. Done. If they need content, they need to log in, but with password memory, that's super easy. I find the more steps you put in front of a task, the more excuses you give a student to find something else to do.



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Benefit 4: Crazy online storage for just about anything

The area154.online site was about 25 gigs in size, but that's about 0.025% of a 1000 gigabyte drive space. I could upload, movies, backups of my backups, duplicate my entire site in case of corruption. On more than one occasion, I had files that I didn't want to put on any Google drive but needed access to it anywhere. With those files on my server, I can have them. I could even embed videos I want off the Google search algorithm into website pages on the server and only those with the link would ever see them.

Benefit 5: Make multiple sites

If you have the server space, you can make an install as many websites and URLs as you want. You want to host a side hussle on that server at the same time as your school stuff? It's easy.

Benefit 6: Yours no matter where you go professionally

The server and everything on it is yours no matter where you end up in your professional career. The district cannot touch it. However, if you put material on your schools Goolge drive and their Google Classroom, then... all that material belongs to them, technically. Now many districts will let you take your materials that you created with you assuming you download and archive them before your position has ended. With that, access to your Google drive and class are "adios" as well.

Now before kicking in the proverbial doors of the next webhost service you see, let's take a tour of the less awesome elements of hosting and managing your own teaching site.



THE DOWNSIDES TO HAVING YOUR OWN DOMAIN:

All is not sunshine and rainbow when hosting your own server with someone like BlueHost. OK, 95% of the time, things are very low investment and minimal maintenance. But that 5%...

Yuck Reason 1: Total control means total responsibility

Yup. Something goes wrong, it's ALL on you. BlueHost (as many services do) have chat tech support. The are, eh, relatively helpful. Some are some aren't. Most of the time I end up having to plow through mountains of web tech forums to seek solutions for more complicated issues. If you don't back up your entire site on a weekly basis (there are apps to help with this) a site breach by a malicious bot could destroy the entire site. Managing a site takes a little bit of skill. If you are not sure this is right for you, but want to have your own website, I would start with someplace like WIX or GoDaddy that has more hands-on and support for their customers.



Yuck Reason 2: SSL Certs are a sham, but there's no way around them.

SSL certificates are the new money grab in webhosting. If you have enough experience or practice navigating around in the cPanel file system you would likely be able to install the SSL certificate on your own. It's kinda complex multi step and for that reason, sites will charge you to install them for you. But if you want to do it yourself the certificate goes "bad" like week old banas after three months and you have to go through the whole process again. If you don't use an SSL cert, then Google gives you this screen and it scares everyone away from your site. Not cool, Google!

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Yuck Reason 3: When things go wrong they can go really, really wrong. This situation is very rare and not likely to happen frequently. Many of these hosting companies are located outside the US. BlueHost, for example, is located in the UK. The very first hosting service I had with AREA154 was a company called MidPhase. Solid, awesome service, and their backend services were easy to use. Then the Russian-Ukraine conflict happened and then Pres. Joe Biden imposed sanctions on Russian products. I was not aware that MidPhase had Russian ownership.

Soon after the sanctions were in place all hell broke loose with my site functions. Stuff was breaking, I couldn't re-upload or restore mysite, I have no idea what it was that was making my site so hard to manage, but as soon as I moved the content to another host, all those issues just disappeared. There is a lesson here. At some level, you don't have control. There's always some gateway out of your reach that you're subject to and don't have the capacity to out maneuver.

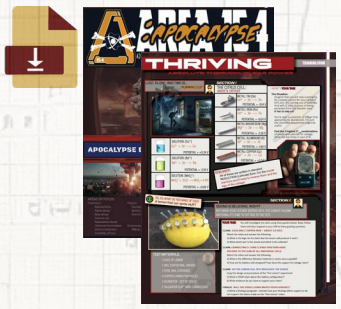


Image generated from Ideagram.ai
Prompt: Create an image that shows a woman who is absolutely fed up with her broken computer. She's got crazy eyes and uses a shot gun to blow up the computer screen. Pieces are flying everywhere as a result of the blast.

THE BACKBONE TO EDUNEERING CONTENT DELIVERY: THE HYPERDOC

Arguably the most important element of u-Learning is the accessibility to the content and how that content should provide everything the student needs to accomplish the learning goals... of course... done with envious style, and swag. The backbone of the content delivery for A-Div was the ***Omnidoc*** *derived from a much older and less flexible interactive format called the Hyperdoc.*

HyperDocs started as MS Word Docs or Google Docs with links in them. Technically, that is the 50-cent way of making an Omnidoc, the grown-up adult version of the HyperDoc. As technology advances and students are suckelled to an ever more increasingly impressive slew of visual quality, education has fallen WAY behind. Eduneering Initiative Omnidocs have all the content accessibility but with impressive amounts of style and immersion. Click on the icons below to download samples of Omnidocs take from the *AREA154: Apocalypse Division* chemistry curricum (We'll talk in more detail about this program later.)



From the "Thermonuclear Eradication" case file, this Omnidoc provided content support for electrochemistry.

Download and explore the layout and the presentation of the multimedia



From the "Zombie Apocalypse" case file, this Omnidoc provided content support for electron configurations.

Download and explore the layout and the presentation of the multimedia - notice the subtle design differences, but keep the same overall design theme.



From the "Super Volcano" case file, this Omnidoc provided content support for energy measurement.

Download and explore the layout and the presentation of the multimedia

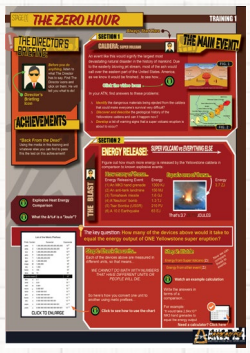


From the "Alien Invasion" case file, this Omnidoc provided content support for learning the periodic table.

Download and explore the layout and the presentation of the multimedia



VS



The screenshot above was taken from an AREA154 installation in a Canvas cartridge for internet distrobution. For AREA154, the website functioned better as a distribution hub for the Omnidocs, and those docs provided all the instructional support.

The Omnidoc above has contextualized links to instructions, support media for additional content support, and signpost videos. Advantage: It has all the things a website can do, but doesn't need to log into a website to have access.

WEBSITE VS OMNIDOC: IS THERE REALLY A DIFFERENCE IN PERFORMANCE?

The website was basically a repository for the Omnidocs and a place that students would use the LMS to take formative assessment pieces. Their assessment scores were kept on the site and, unfortunately, those scores had to be hand-transferred to the grading program. It's an extra step, but it went rather quickly, especially when managed by a competent TA.

AREA154 CONTENT ACCESS BREAKDOWN: HOW STUDENTS GOT THEIR CON-

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TENT

First the students call up the website area154.online
(On any device with a internet connection)

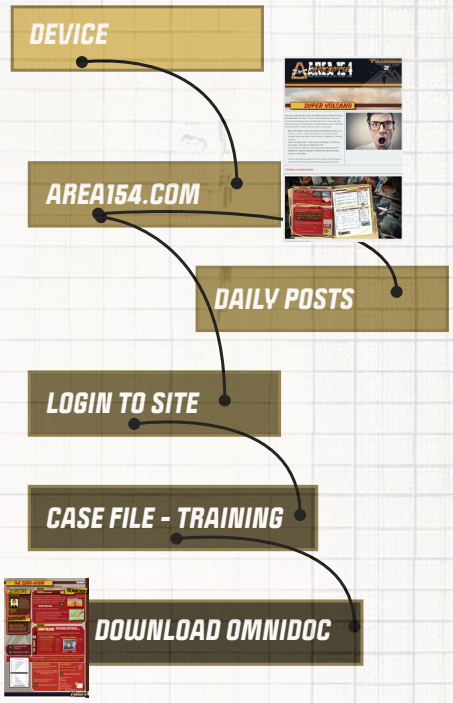
Read the most recent post
(at the top of the site page)

Then they login
(They can't see their learning content without logging in)

There's a drop down menu that takes them directly to the training they left of on.

The download interactive PDF HyperDoc
(These were authored in Adobe Indesign)

Note: Once downloaded, the links embedded into the Omnidoc work! Which means the student is not teathered to the website to use the materials! Say if they open up the Omnidoc PDF on their phone, that phone can now provide them any and ALL learning resources independed of having to log go through the process of logins, passwords and site navigation to get to the needed materials.



FOR IN PERSON OR FACE-TO--FACE INSTRUCTIONAL ENVIRONMENTS:

The website became the starting point, point of contact for ALL learning materials, and where the class assessments are kept. It's one stop shopping and all the students LOVED it.

Focusing on the front screen where the teacher station computer presents today's post complete with some opening thoughts, the productivity target, and reminders of important dates on the horizon. The teacher brings up current events that might connect to the case files or simply dive back into the place they left off the day before.

Student in-class access to learning content: The students will have the Omnidocs on their Chromebook screens and their ATNs (notebooks). However, the site and any content that was supposed to be of focus was also placed on the front screen.

Teacher can teach in person the content that needed to be presented or the students could watch the embeded videos inside the Omnidoc that would basically tell them exactly the same content the teacher would be showing in class.

Interesting to note that HOW the content is presented may be engaged with differently depending on the psycho-social make up of the students in the class. Classified by the different psycho-social groups discussed earlier in this book by Richard Lewis engagement with information presentations might vary:

Non-linear students:

Preferred the personal interconnectivity of live discussions where the instructor provided information in live presentation form.

Linear students:

Preferred to see the information presented on video rather than done live. Even videos with very uncomplicated production value such as "Khan Academy" videos were able to engage more Linear students for a longer period of time than live presentations.





Non-Linear Pyscho-social tendencies in action

When AREA154 content was presented with students that were predominantly Hispanic, more students engaged more into the content when it was personally presented.



Linear Pyscho-social tendencies in action

When AREA154 content was presented to students that were predomnnantly white, mose students were willing to engage with the content when it was playing on a video.

SEMPER AD MELIORA
"Always Toward Better"
(C) DR. TORRENCE TEMPLE 2025

EDUNEERING PROMOTES VARIABLE STUDENT PACING

The teacher sets the pace for what sections should be done and when, but the deadlines are flexible to account for the unaccountable events that go on at home. With appropriate parent support those sections are usually done in class or that night. However, if the students have to do one or more sections at night, they have the HyperDoc resources to remind and reteach the needed content to be successful.

Due Dates and late work: I am a deadline person. I respect and rely on them. I also realize my neurosensory, cultural, genetic factors, and always (for the most part) lived in a peaceful home. All of these factors contribute to supporting that aspect of my personality making due dates effortless to embrace. I prided myself on always, no matter what, having everything done by the deadline.

That said, not everyone has been trained to consider such things with as high a prioritiy. The Omnidocs provided something called Temperal-Spatial differentiation. The students could get work done in the time and the space that worked the best for them.



Image generated by Dall-E, Open-Ai
Prompt: History teacher behind a desk with 4 different red boxes that have the words "Turn in" on them. The boxes are in front of the teacher as the teacher sits behind the boxes. Kids are working in the background in a middle school classroom. History teacher has dark skin and long black hair.

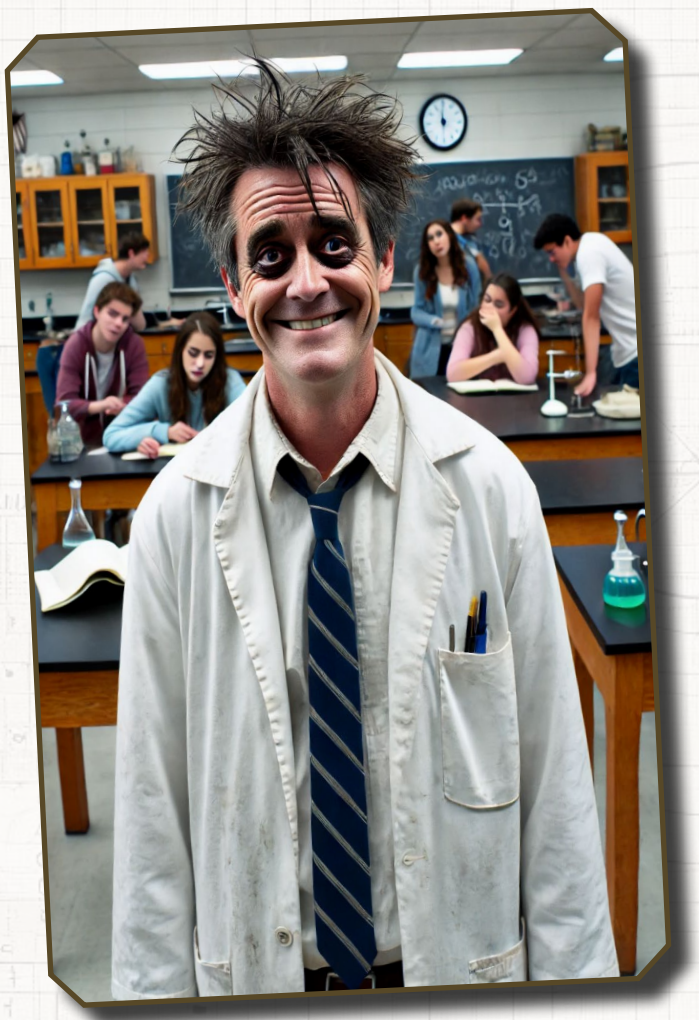


Image generated by Dall-E, Open-Ai
Prompt: a vertical image that shows a science high school teacher who looks worn out, exhausted, and with a fake smile and a look of hopelessness on his face. There are students in the background who are doing chemistry experiments, some are sleeping, some are sitting on the counters.

Not too long ago, life provide me with a series of neurosensory experiences that challenged my ability to operate myself and my own brain. While my basic bodily functions, knowledge, learned behaviors, and genetics were unchanged, my neuroseonsory input had changed dramatically. I underwent my own personal seven years of tribulation. Tragic personal loss, personality altering events, events that changes the trajectory of one's life. During that time, my brain's capacity to keep track of due dates or any date in general felt nearly impossible. I was the same person, but under extreme strain and duress my brain's cortisol levels absolutely destroyed my short term memory and the ability to think and act in alinear logical manner.

As a teacher, not having had the lived experience to understand, I would internally judge students for not being able to complete what I thought were the most simple tasks.

After recovering and getting life back in order, I learned to build soft boundaries around due dates and understand there are different kids with different lives. I tried to provide a mechanism for students that struggle to control their neurological factors or sources of neurosensory input.

I was in my 40s at the time and if I couldn't control life's emotional rigor, these teenagers don't have a prayer. The u-Learning design allowed me to transfer control to the students and provide some leverage. However, one can't put the work off forever. The bill comes due at somepoint no matter what's going on in life.

Late work consistently plays a role in student, parent, teacher conflict. If the world was perfect and everyone built the same, I might be all for hard and fast deadlines that have no flexibility. But, that's not the world we have now, not even close. However, that stance (And I've seen this happen at the university level, too) of inflexibility breaks student-teacher trust and causes strife with the parents. The teacher will always win that battle, they hold all the cards. But at what cost? How much damage is done to the student or parent relationship by winning the battle at the cost of losing the war?

Late work seen through u-Learning and AREA154:

Not in the 8 years this program was deployed did any parent call, email, or text complaining about late work. Here's why:

- During the time of the Case File the student can work at their own pace.
- I check on their progress daily in the ATN.
- All of their course work is located in their ATN which is always located in their backpack - at school or at home.
- All of the quiz scores are available at our website that your student can, even on their phone, log into and show you their scores should you ask them to show you.
- Every single piece of instruction, direction, and learning support media is connected to the HyperDoc that is available to othem 24 hours a day 7 days a week and from any where on the planet where an internet connection is available.
- For the last two weeks, students have been warned about "Zero Barrier." Students know that after Zero Barrier, there's no work accepted. They had 8 weeks to get it all done during which I would have assessed and graded any work presented to me with no penalty.



Image generated by Flex.1dev
Prompt: Create an image of a parent teacher conference where the parent is yelling at the student. The student lied and got caught. Now she's being yelled at in the teachers class by her mom.



Image generated by Dall-e: Open-AI
Prompt: a teenage girl with many high school books on her bed and folders lawing on top of them. She's on the floor with her phone in hand, talking to someone on Facetime.

THE POTENTIAL PROBLEM WITH THE U-LEARNING LATE WORK POLICY

Every decision has a consequence, even this one. Having run this system for almost a decade there are some potential issues with this plan.

#1 Students tend towards inherent laziness:

If you've ever spend more than a couple of days around teenagers the begin to show you what they all have in common. Besides being hungry all the time, they also have a tendency to seek out the absolute easiest way to do anything... (reminder: this is a genralization governing at least 65% of teenager behavioral traits and let's consider there is a propensity for adults to follow the same pattern.)

Easing off a more permanent due date allows students to very easily put off work because they don't feel like doing it. ***Without some solid parental intervention, putting off work can get habitual real fast, and it does.*** I have had to pull countless numbers of students into 1:1 conversations and establish daily plans for work completion because they just... can't manage to do it without someone babysitting them.

#2 Grit killer:

When the work builds up from chronic procrastination, there comes a threshold where the student just gives up. "It's too much, I can't possibly finish it all." To try and rescue kids in this situation requires a lot of "hand-holding" daily checks, basically doing all the stuff their parents should likely be doing at home, but aren't. I change their seats to be closer to where I am to keep a closer eye. While this strategy works, it works when there's enough seats near my desk... and there are no where enough seats.

#3 Confusion with traditional expectations:

I have heard arguements suggesting the kids that end up in this situation would have likely ended up there anyway. Students' level of engagement isn't generally dependent on the immovability of a due date. If a student hasn't done much after 3-4 weeks and after some intervention, shows little sign of turning around, won't likely get the opportunity to have the extra attention from a seat move because the kids that did respond, are already in those seats. Psychosocially, the kids at this school were already culturally practiced to neglect strict due dates. While some rose to the occasion, many more who could have kept up were left behind because of an inflexible instructor enforcing something that doesn't have anything to do with the curriculum itself or was part of the rubric evaluating the assignments. Eduneering might imballance students and confuse traditional expectations about due dates.



Image generated by Dall-E, Open-Ai
prompt: In the corner of a high school physics room are 4 student seats pointed to the teacher. Those students are working, whereas most of the students in the background are goofing around.

#4 It's not how higher education works:

One of the big catch-22s I experienced with the AREA154 design stems from its success. A good portion of the reason students engaged into this particular content when the would not have otherwise was due its unconventional narrarive-based design. I've had critics of the system share with me that I'm actually doing the students a disservice teaching them using u-Learning methods. "Universities don't work like that. Other classes in high school don't work like this. You're setting them up for frustration and failure." Granted, I have evidence to the contrary (some very notable exceptions), but the critics have an point that cannot be denied. It's not like normal school and sure as hell is not how college works. I should know, I've been a grad-school university professor for 23+ years.

NOTE: (However... for those of you taking the ITI 691, 693, 695, emphasis courses at National University are well aware that university classes are about to change! Already have!)

My reply to the teacher-challenger regarding my methods was short and simple. "Do the same thing... get the same results. And our results have not been that good." Of course I made direct eye contact with her during that last part meaning YOUR results. In any case, there is some consideration to be made for preparing kids for higher education. But if 40% of them fail the course, there's likely not to be a higher education option for them. Counterpoint.

As a side note: This is one of the wierdest professional "flexes" I've ever seen and it happens all the time, sadly...

Teacher: "Just so you know, most of you wont pass my class..."
Student: "Uh... congrats on sucking at your job?"

If there is a will (because the students absolutely have an effort to put in) great teachers find a way. Always.



Image generated by Flex.1-dev
Prompt: a teenage girl with many high school books on her bed and folders lawing on top of them. She's on the floor with her phone in hand, talking to someone on Facetime.

A BRIEF HISTORY OF THE EDUNEERING INITIATIVE *(Part IV)*

Like everyone else, I rode the 9/11 USA bandwagon. I flew American flags and bathed in the unity that only such an event could bring. However, as my science brain predictably and ruitinely ruins movie plots or punches holes in super powers, it was soon about to do the same to this great American tragedy. The physics wasn't standing up, YouTube - then an unregulated wild west of vocal expressionism - was producing videos on the topic that was making far more physical sense than the proposed narrative the mainstream media fed us. It was a need to share this experience and explore chemistry in ways that would promote engagement rather than bore students with content that meant nothing to them personally.

What if... I could design a chemistry unit centered around thermochemistry and some very specific elements that would allow students to study the details behind 9/11 on their own. What if... we did this together as a sort of team. What if... it were covert, need to know, special access... the antithesis of the CIA. Not sure I knew what to call it at that point. But the resulting chemistry experience rocked the world of 180 sophomore chem students who would never see their world the same way again.

OUR TARGET:

7 EDUNEERING: THE WORD IS NOT ENOUGH

In the pre-millenial James Bond movie, The World is Not Enough, offers an interesting comparison to our current situation with learning materials. In the movie, there's a fundamental resource, petrol (gasoline), that is put under duress in order to capture control of this precious resource. In an odd comparison, we are seeing attention and "text-phobia" gripping the minds of the world youth, cutting them off from key data, information, lessons, and other sources of information because, essentially, the word is not enough to keep their attention.

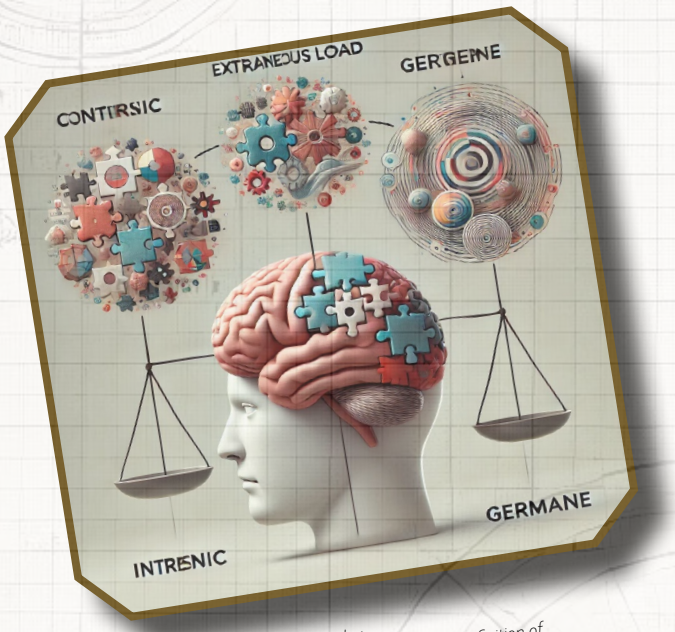


Image generated by Flex.1-dev
Prompt: Create in an image that reflects the definition of cognitive load theory

Design element mater and more so now than ever before. Devs who work within the Eduneering Initiative have particular guides they consider when developing learning material for a student population that is media savvy but text avoidant. I've broken these principles down into specific categories that deal with student thinking, multimedia experiences, student emotional involvement, physcological engagement, relegation of "seductive details", visual focus, interface design, and design consistency.

This is the good stuff. This is part of what makes Eduneering Devs the best learning designers in the world.

THE EDUNEERING DESIGN PRINCIPLES

Cognitive Load Theory (Sweller, 1988)

Core Idea:
The human working memory is limited. Instructional materials that are too complex or poorly designed can overload cognitive resources, leading to reduced learning.

Relevance:
Properly designed visuals (e.g., coherent color schemes, clean layouts, well-structured text) can reduce extraneous cognitive load. Conversely, "cluttered" or overly decorative materials may increase cognitive load and hinder learning.

Real life example:
Have you ever seen anyone, literally anyone, from the district office come and present on anything. Watch the ragged amount off unneeded words and text concentration on the screen. Did you want to read? Not a lot of people do. The overwhelming amount of text on the screen pushes people away. Better to have more slides with less text, if text is unavoidable.

Cognitive Theory of Multimedia Learning (Mayer, 2005)

Core Idea:
Learners process visual and verbal information through separate channels; both channels have limited capacity and must be managed carefully.

Relevance:
Mayer's principles (e.g., coherence, redundancy, contiguity) stress the importance of avoiding extraneous visual or textual features. However, well-chosen aesthetic elements (e.g., harmonized colors, balanced layouts) can foster better processing, motivation, and retention if they align with the instructional goal.

Real life example:
If you have audio on a screen, make sure it talks about VISAUL objects on the screen not words. Use a common set of ICONS public understood to have a meaning like and arrow for "next" or a triangle for "play". Data that is already part of the learned cadre of knowledge reduces cognitive load and doesn't spend mental bandwidth on things that are not directly connected to the key points of understanding.

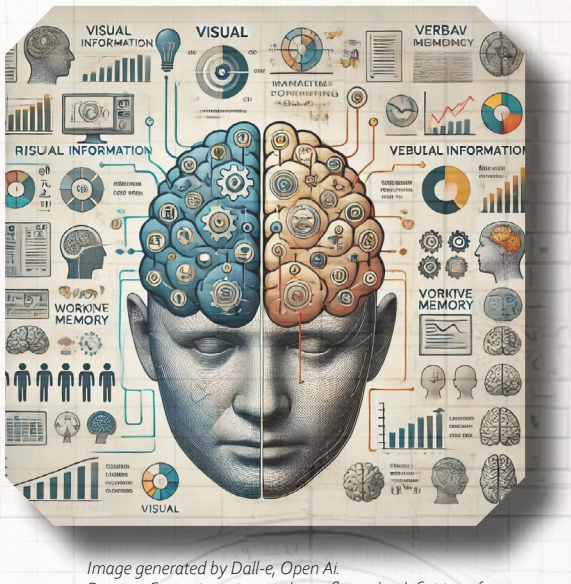


Image generated by Dall-e, Open Ai.
Prompt: Create in an image that reflects the definition of cognitive load theory

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Emotional Design in Learning (Plass & Kaplan, 2016; Um et al., 2012)

Core idea:
The emotional response elicited by the design of educational materials impacts learner motivation, engagement, and even deeper cognitive processes.

Relevance:
Elements such as warm color palettes, friendly typefaces, and appealing graphics can create positive emotional states, leading to higher engagement and better learning outcomes. Emotional design research often emphasizes that aesthetics should not be merely ornamental but purposeful in supporting learning objectives.

Real life example:
Watch any commercial where people want to sell you something you may not want. Notice the bright colors, shiny happy faces, and the lack of any sort of conflict - even on the color pallet. That is designed to put you at ease and "feel" your way into wanting to learn more.

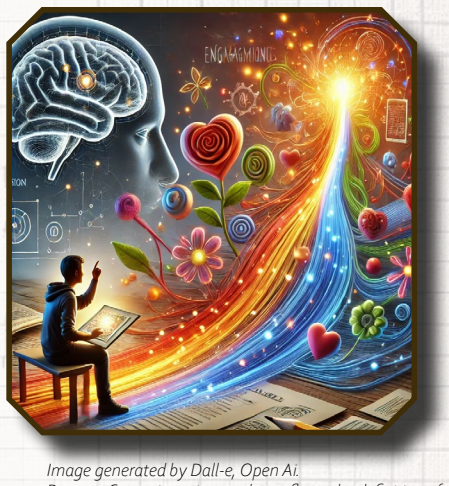


Image generated by Dall-e, Open Ai.
Prompt: Create in an image that reflects the definition of emotional design in learning.



Positive Emotional Response and Engagement.

Core Idea:
Research shows that learners who perceive materials as visually attractive often report higher motivation, longer on-task behavior, and more positive attitudes toward the content (Um et al., 2012; Plass et al., 2014).

Relevance: Aesthetically pleasing elements generate positive affect, which can increase intrinsic motivation and persistence.

Real life example:
In my own research (temple, 2021) I noted that the student response to the comic book centered design, bright visuals, full color interface, associated with interactive elements was listed as "highly important" to their level of willingness to engage into the chemistry content.

"Seductive Details" Effect (Garner et al., 1989)

Core Idea:
While an appealing design can boost interest, irrelevant but attention-grabbing details (e.g., random stock photos or superfluous animations) can distract learners and reduce comprehension.

Relevance:
Designers should ensure that aesthetic elements support and reinforce learning objectives rather than merely decorate the page.

Real life example:
When middle school kids first learn about making multi-media projects they want to put every animation, color, animal, and clip art, into the project. As fun as that might be, all of that "interesting" and "fun" clutter distracts the learner from the important information. (see cognitive load theory) Believe it or now, there are teachers employed in schools today, that STILL build slide presentations like hyperactive 6th graders.



Image generated by Dall-e, Open Ai.
Prompt: Create in an image that reflects the definition of the seductive details effect.



Image generated by Dall-e, Open Ai.
Prompt: Create in an image that reflects the definition of visual cohesion & learning

Visual Cohesion and Learning Outcomes

Core Ideas:
Studies investigating color coordination, layout balance, and typographic consistency (Levie & Lentz, 1982) suggest that coherent visuals enhance comprehension and understanding within the instructional context.

Relevance:
Coherent design reduces visual search time, organizes information hierarchically, and makes cognitive processing more efficient.

Real life example:
While constructing the AREA154: Apocalypse Division chemistry program I re-used the same symbols to represent the same things no matter what the case file, time of the year, or chemistry content they were engaged with... using the same icons all the time to mean the same things reduces the work and frustration students experience to get the information they want.

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Image generated by Dall-e, Open Ai.
Prompt: Create in an image that reflects the definition of the role of personalization of identity in learning.

Role of Personalization and Identity

Core Idea:
Materials that reflect the learner's context (e.g., culturally relevant images, design that resonates with the learner's environment) can heighten engagement (Lin & Dwyer, 2010).

Relevance:
A sense of personal connection or cultural relevance can make materials more aesthetically and emotionally appealing, enhancing motivation. This could be an overt attempt at connection or a synthezisized curated culture designed within the learning environment. Doing either promises an increased level of ownership and belonging to the class.

Real life example:
This is where themes and narratives really shine. In the AREA154: Apocalypse Division students accepted their role (identity) as ARC Agents in training. No longer just mere high school students, they were the nation's last hope to survive end of the world events! In reality, it meant that I made them name takes with their picture, agent name, call sign (which I made up on the fly) and this ID was the hall mark of their progress in the program. Every time they achieved a certain number of "achievement points" they would rank up and get a new ID badge that would allow them different and special privileges in the classroom. The ID, their role as ARC Agents had both narrative and realworld implications for them.



The "A-DIV Badges" were made using by taking green screen'd images using an app called "Green Ink" on the iPad. The backgrounds were matted into the students background by the app saving time. The images were then transfered to Adobe InDesign where the layout for the badge was made. The badges were copied 8 to a page. Once the pictures were sized and place, they were color copied and placed in to clip-on conference style badge holders.

AREA154: Apocalypse Division used the concept of personal identity to create an in class persona for every student. The theme asked the students to become part of a special-access program and as part of that program, were provided with personalized badges. These badges were used to track achievements, rank, and used to monitor daily attendence. Every single day, they could grab their badges off of the holder in the front of the room. Interestingly, at the end of the year, the ID badge was one of the most covetied reminders of their time in A-DIV. Some students took them to college and kept them years after graduating high school.

DESIGN PRINCIPLES LINKING AESTHETICS AND ENGAGEMENT

Simplicity and Clarity:
Avoid overloading pages with unnecessary design elements. Use whitespace strategically to help learners focus on essential content.

Consistency:
Employ consistent color schemes, typography, and iconography throughout materials. Consistency minimizes cognitive load and makes navigation intuitive.

Relevance and Purpose:
Ensure every visual or decorative element contributes to learning objectives. Cut out or reduce "seductive details" that do not support content goals.

Emotional Resonance:
Use warm or inviting color palettes, approachable fonts, and supportive imagery to foster positive emotions. Incorporate student-friendly language and relatable examples. Absolutely include cognitive dissonance when the opportunit arrises, especially between lessons or units that are connected. End it on a cliff hanger!

Learner-Centered Customization:
Allow learners to adjust font size, color themes, or layout according to preference. Personalization can boost engagement by giving learners control over their learning environment.

Challenges and Considerations:

Balancing Aesthetic Appeal and Cognitive Overload

There is a risk that in pursuit of "beautiful" materials, designers inadvertently introduce extraneous load or distracting elements.

Context-Dependence:

Not all aesthetic choices will be universally appealing; cultural differences, age groups, and subject matter play a role in how design is perceived.

Measuring Engagement and Learning Outcomes:

Engagement can be observed behaviorally, emotionally, and cognitively, yet it is often conflated with purely behavioral measures (e.g., time on task).

Future research needs more precise metrics to capture the nuanced relationship between aesthetics, engagement, and actual learning gains.

Rapidly Evolving Technologies:

As more digital tools (e.g., virtual reality, interactive simulations) emerge, the aesthetic dimensions become more dynamic and immersive. Ongoing research focuses on how novel interfaces and interactions affect engagement and learning.



Image produced by Dall-E, Open-AI.
Prompt: Create a vertical image of a person who is looking at top options up on a wall-sized design board. On one side of the board, there are images connected to fun and fantastic design, and on the other side are the more clinical aspects of student instruction and curriculum design.

FIND THE BALANCE

Research across cognitive psychology, instructional design, and educational technology consistently demonstrates that aesthetic qualities can meaningfully influence student engagement, motivation, and even learning outcomes. Attractive, emotionally resonant materials are more likely to capture and hold students' attention. However, aesthetics must be purposeful and aligned with instructional objectives; superfluous or distracting design choices can impede rather than enhance understanding.

In practice, educators and instructional designers are encouraged to:

Use clear, consistent, and contextually relevant designs. Integrate design choices into broader pedagogical strategies, ensuring visuals and layouts directly support the learning process.

Strike a balance between visual appeal and educational effectiveness, avoiding needless complexity or purely decorative elements that add to cognitive load.

The collective body of evidence suggests that **effective "emotional design,"** which carefully leverages aesthetics to evoke positive learner emotions, can be a powerful tool in fostering deeper engagement. Nonetheless, rigorous empirical research continues to refine our understanding of the nuanced ways in which aesthetics interact with cognitive (dissonance) and motivational processes in education.

There is a term a colleage of mine, Collin MB Cooper, CEO Illumnite XR of used the term, *"Fail forward fast."* I think design engagement might be one of those catagories where we need to intentionally experiment to find the groove where design and engagement clearly hold hands and dance freely together.

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OUR TARGET:

8 THE PROBLEM CONTENT AREA (PCA)

HOW TO ADDRESS YOUR PROBLEM CONTENT AREA (PCA)

The PCA
Problem Content Area

The PCA, or your problem content area, is the part of the instructional pathway you teach that either, YOU have a huge problem, or the STUDENTS are having problems. We all have them and they require special attention to analyze for problems and creatively innovate for solutions. They are also perfect targets for u-Learning design opportunities

***EXAMPLE 1:** Elementary School Science*

The situation: A third grade teacher has trouble teaching specific areas of science to her students. First, she's not very confident in the subjec area and has traditionally relied on publisher bought materials and just followed the instructions.

The PCA: The teacher felt the kids experiences were, OK, at least for now in most science areas. However, when it came to working with planets stars, telescopes, and solar system materials, she just didn't have the interest, knowledge, or resources to expand on the topic. This section of the curriculum was also where the engagement and formative scores were lowest. In this case the *Space Science Unit* was the PCA.

ASSET BREAKDOWN:

5 days total - though it could be spread out by alternating days providing students to work at home if able.

Teacher interests and strengths:
- Extensive traveler
- Scrapbooking & some image editing skills
- Two grade-level teachers that will assist and collaborate

Student profiles:
- 3rd grade (about 8yrs old)
- Minimal frontal lobe development,
- Emotional reasoners
- Highly curious
- Still in "play" mode and are willing to "make believe"
- Socio-ecnomically (75% middle - upper middle; 25% mid to low)

Demographics~
- 52% white, 38% Hispanic; 5% Black, 5% other
- This SES status would indicate that requests could be made via email or note to parents and around half of them would respond and support the request.

(Profile built around a cumulative student population of two different cities in Riverside County, California representing approximately 60,000 students.)

Technical and professional assets:
- Internent search and image acquisition abilities
- Basic understanding of PowerPoint along with a district subscription to PowerPoint
- iPad (personal)
- app.video.ai - (pruchased yearly subscription ~$30.00) Animates images and adds text voices to these animated videos. (might need link to declarative video about this app)

Instructional time allocation:
- 2 days (1 hr each) to work and learn
- 2 days build and construct (aprox 2.5 hours prep time running AI-driving voice animations for students.

1 day to show and share

OPT: Create a short take-home flyer or other communication advertising the app.video.ai site encouraging parents to play with the site and collaborate on creating their own child's animated video - this will cut back on the teacher prep-load. This also opens more communication pathways to parents which is always a win.

A "Dev" Creative Challenge:

Analyze this student population breakdown, PCA, and teacher asset breakdown.

EDUNEER an appropriate design that could support students as they work in school and outside of school. What would the theme be? What would the narrative be? Who would play which roles? (Appropriate for the demographic!)

Once you've had a moment to discuss options given the information provided, lets dive into one option developed by a "high ranking" Eduneering Developer called: "Solar Express"

Click to view

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EXAMPLE 2: MIDDLE SCHOOL MATH

The situation:

7th grade teacher has a few years of experience and has watched the students struggle each year through the same handful of areas. The teachers in the department are rather "by the book" and don't tout themselves as a very creative bunch. They know there are issues with certain patches in the curriculum. Their answer is and always has been to power through it. They ones who get it get it, the ones who don't well... they don't.

The PCA:

Teacher has noticed that over several years, the students have really struggled with fractions and working with them when there is an unknown to solve for in the problem. It appears that their background understanding of fractions is lacking which compounds any confusion they have with solving for unknowns. In this case, the lessons with fractions and unknowns *is the PCA*.

Asset breakdown:

Teacher interests and strengths:
Active in maker space and home engineering
Big fan of crime shows and international spy stories
Has interests in website building, not quite a coder, but enjoys putting sites together as a sort of side-hustle for friends, family, and other referrals.

Student profiles:

7th grade (11-12 years old)
Minimal to mild frontal lobe development
Due dates and timeliness are less of a concern culturally
Emotional reasoners, tendencies to push back on authority figures
Highly affected by cognitive dissonance, mysteries, and stories
Highly conversational, feelings matter and student-teacher bonds are taken seriously
Students tend to be self-centered & tend to lack understanding of the larger world
School is getting repetitive and students are largely tired of school
Teaching methodologies tend to be all the same regardless of subject - boring
Socio-ecnomically (15% middle - upper middle; 70% mid to low; 15% at poverty)

Demographics:

5% white, 88% Hispanic; 4% Black, 3% other
This SES and cultural profile would suggest that requests made to families or parents would largely be ignored. It's likely that many of the parents don't speak English and don't prioritize school work at home. Students, if they do school work at home, it's done usually later at night many hours after school ended. (Profile built around three different Riverside County School Districts' demographics as of 2025 representing approximately 43,000 students).

Technical and professional assets:

Internent search and image acquisition abilities
Basic understanding of PowerPoint along with a district subscription to PowerPoint
Web Site editing and building skills
Basic photo manipulation abilities
Familiarity with AI - both as a technology and as a user

Instructional time allocation:

Time allotted to the concept is between 5-6 instructional days, including the assessment.

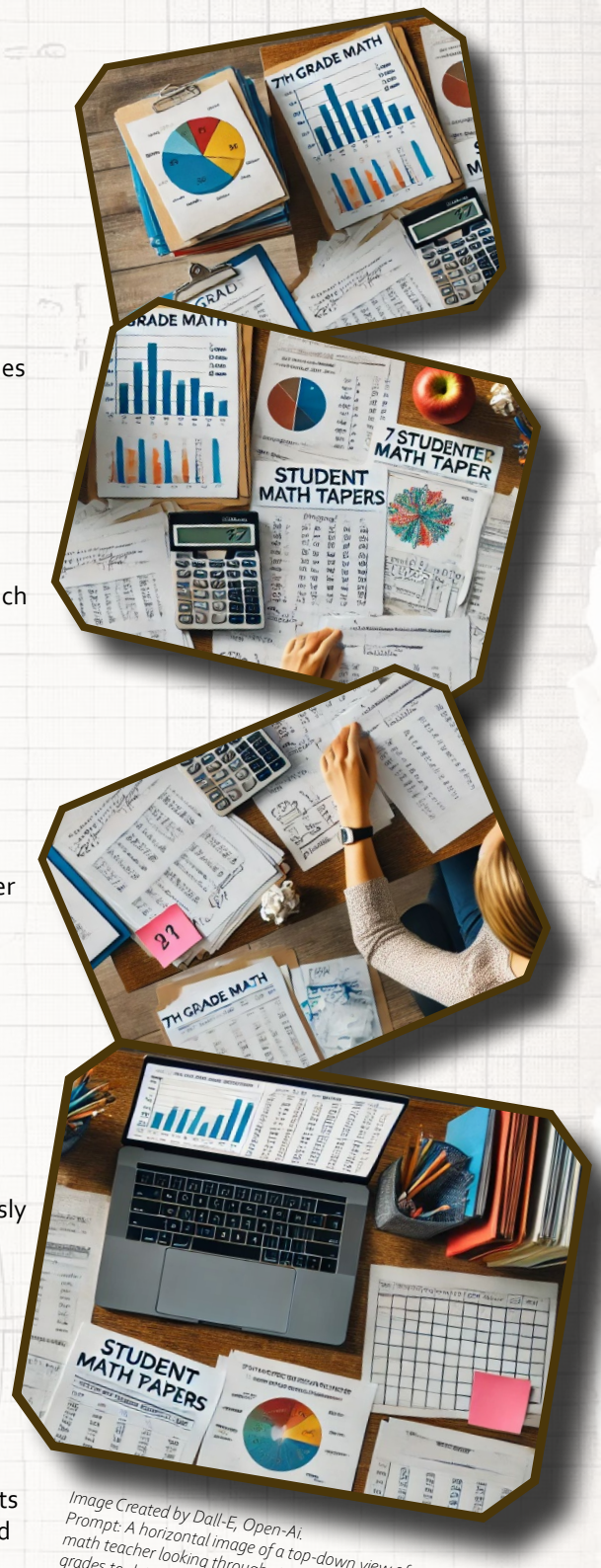


Image Created by Dall-E, Open-Ai.
Prompt: A horizontal image of a top-down view of a 7th grade math teacher looking through stats, student math papers, and grades to determine problematic areas in the curriculum.

Note: All of these images are close-up crops of the same image.

A "Dev" Creative Challenge:

Analyze this 7th grade math student population breakdown, PCA, and teacher asset data.

EDUNEER an appropriate design that could support students as they work in school and outside of school. What would the theme be? What would the narrative be? Who would play which roles? (Appropriate for the demographic!)

Once you've had a moment to discuss options given the information provided, lets dive into one option developed by a "high ranking" Eduneering Developer called: "Solar Express"

Click to view

OUR TARGET:

9 SKILLS TRAINING AREA (STA)

JUST IN TIME SKILL TRAINING - EVERYTHING YOU NEED TO KNOW TO BEGIN YOUR EDUNEERING JOURNEY

On of, if not the most powerful stopping forces in the realm of educational innovation is the technical know-how to bring visions to reality. Teachers are a varitable fountain of ideas, themes, and narratives. That's not usually the issue stopping innovative forward progress. The technical ability to bring these visions to life requires a framework, planning skills, an understanding of the limits of your tools, and practice using them. Just in time training allows you to get the help you need at the exact moment you need it. The skills below should get you started building world-class Omnidoc media. Click on the view icon next to the skill and the PDF will take you to that training. There is also a return button should you need to comp back here.

Click on these icons to visit the page.

PowerPoint (Staging Software)

- Making the Omnidoc skeleton
- Forming the links and hot-spots:
  - Linear - start to finish (easier to design)
  - Non-linear design (More complicated, more freedom)
- Media layout planning
- Using Templates for instructional layout
- Media import and embedding to PPT
- Built-in screen recording - PPT (app only)
- "Road Sign" Videos - Updates & Direction
- Embedding video for playback - PPT
- Masked text with video - PPT (app only)
- Font analysis & Free Fonts
- Color pallets and color matching
- Exporting PPT to Interactive PDF
- Additional PPT Polish & Transitiona Tips

Video:

- Screen capturing - PC
- Screen capture - MAC (Still Images)
- Screen capture - iOS
- Screen capture - Android
- Screen Casting for Assessments
- Recording Yourself in Zoom
- Recording Video in Virtual Reality (VR)
- Camera Stability Tools for Your Phone *(Stability = Percieved quality)*

Video Editing software:

- PC Premiere Express
- Mac - iMovie - for video editing
- TikTok Video Recording
- Screencapturing YouTube
- AI Generated Video
- AI Talking Head Videos
- Video B-roll sites (paid)

Audio:

- Audio Recording
- Audacity - free and awesome
- Planning for audio recording
- Using iPhone Audio
- Voice Changers
- AI Text-speech generators

Images:

- Image editors - Free
- AI Generated
- Image Searches

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MAKING: THE OMNIDOC SKELETON

PPT

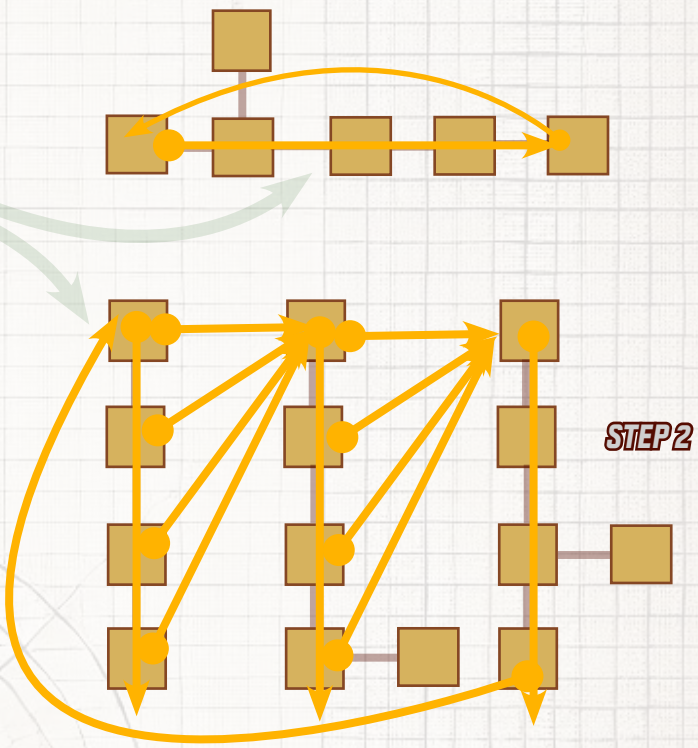
Even before opening PPT, the best "Devs" will "paper-out" ideas to think through what they want the Omnidoc experience to look and feel like. In this sample, we'll be walking through the process of making an Omnidoc skeleton.

STEP 1:
Using some blank white printer paper, break down your content into logical concepts. Figure out which ones can be placed on one slide and which cannot.

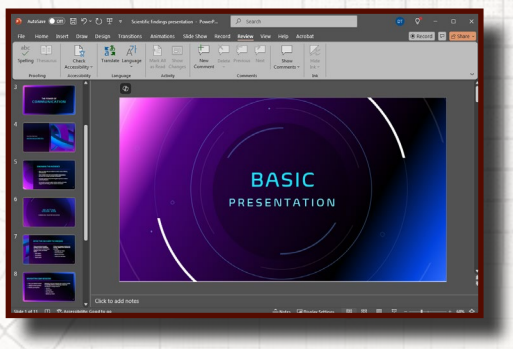
STEP 2:
Determine if your Omnidoc will be either procedural and **linear** or free-explore and **non-linear.**

Procedural Omnidocs - Linear - don't typically have more than a couple of slide branches and center around subject that have a very specific sequence to understand, like math and calculative aspects of sciences. Experiments have procedures that might also fall under the linear category.

Menu driven Omnidocs - Non-linear - are typically not procedure and rather every slide can essentially connect to every other slide in a couple of clicks. This design allows students to explore learning events freely. Historical events connected by different events would be a solid example a non-linear approach. Or exploring different biomes in biology. Where they fall under the same 'biome' construct, but are not causal, and can be visited by students in any order with out affecting their learning.



STEP 3:
Open up PPT to the slide theme you selected.
Save PPT under your new project name (keeps the template clean)
Open the project and then remove any slides that you think will not be used in this presentation.



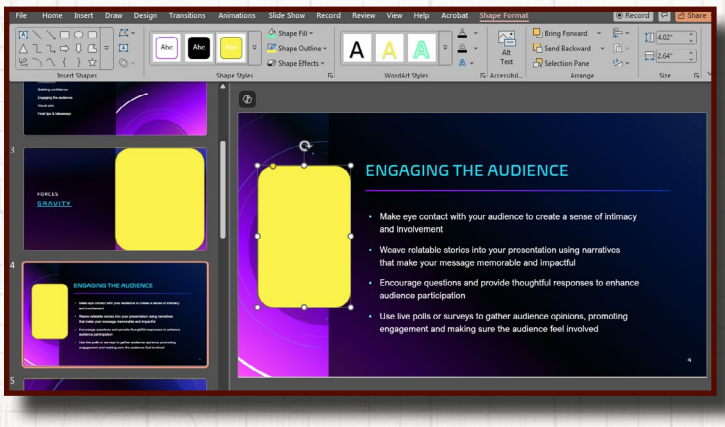
STEP 3

STEP 4:
Title each of the pages based on your notes. This will provide the basic structure of the PPT and the topics to be covered. You can add and subtract later, but these will be the pages you Omnidoc centers around.



STEP 4

STEP 5:
Go to INSERT and SHAPES to select the BOX shape to use to draw boxes where you anticipate additional pieces of media to go. DOUBLE CLICK on the boxes to type out the type of media that will eventually take the place of the block.



STEP 5

Click icon to return to main menu page

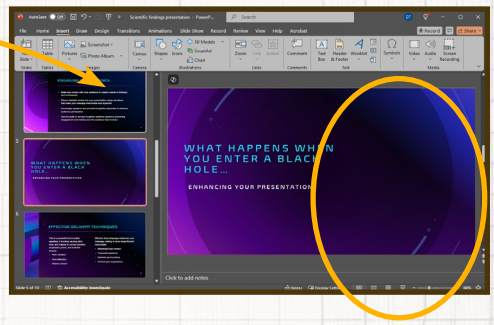
HOT SPOT DESIGN: LINEAR

PPT

"Hot Spots" are the backbone of the Omnidoc learning experience. The development of these links might differ depending on the program being used to make the Omnidoc. This training is how to make the "Hot Spot" for PowerPoint. *(note - this process does not work in the online PPT app as of 3/2025).*

STEP 1:

Δ Arrange the slide with the hot spots so that the active link areas are easy to see and click.

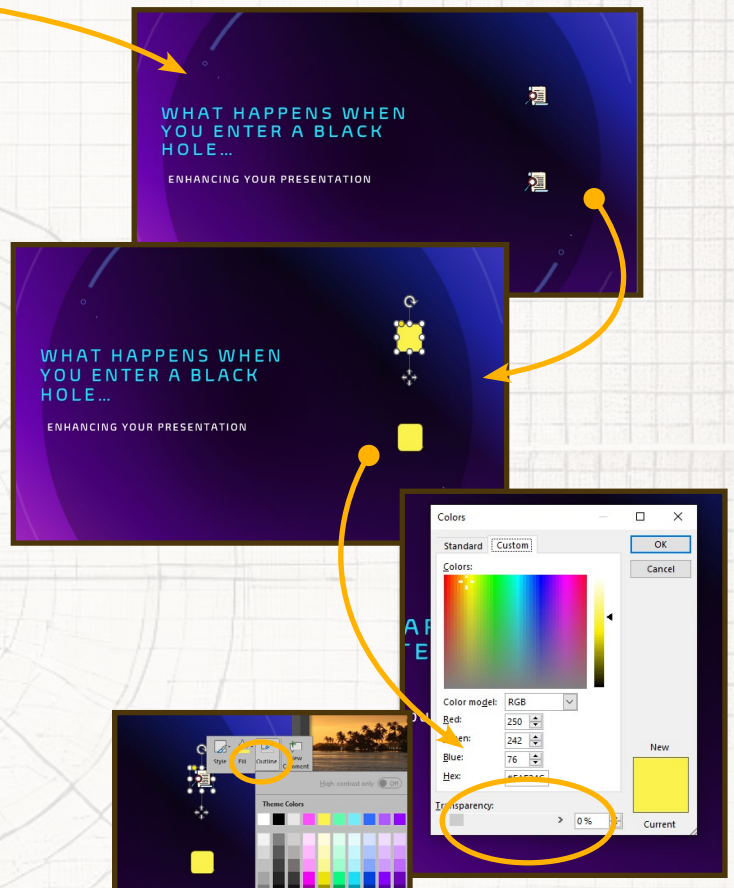


STEP 2:

Δ The icon should supply the "click here" signal to the learner.

Δ Place the icon in the locations you wish to have the hot spot.

Δ In this case the little picture of the magnifying glass and the document sends the message, "to futher investigate, click here" - of course without having to say all of that.



STEP 3:

This step creates the part of the button that creates the link.

Δ Go to the INSERT menu and select one of the rectangles.

Δ Then Draw the rectangle around the icon.

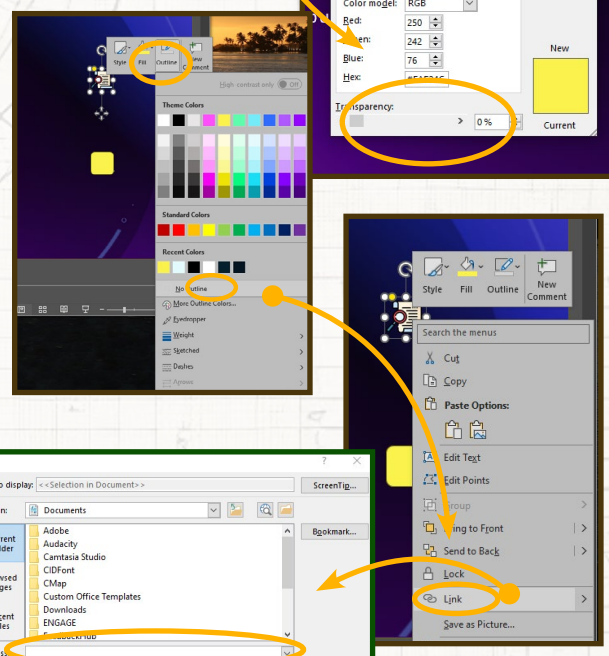
Δ Once you've done that you'll notice that there's a color blocking the view of the icon.

Δ That can be made invisible by right clicking the menu and choosing the FILL option, then choose MORE COLORS.

Δ Use the TRANSPAENCY SLIDER to put the setting to o%

Δ Use the OUTLINE setting to select NO OUTLINE.

Δ Select OK. Then use the cursor to select both the icon and the invisible box.



STEP 4:

Inserting the link to be opened is a matter of knowing where to the PDF where to go.

Δ RIGHT CLICK the clear box and choose "LINK"

Δ FOR INTERNET: the Select "web page" option & then insert the internet address for the site, picture, or PDF file here.

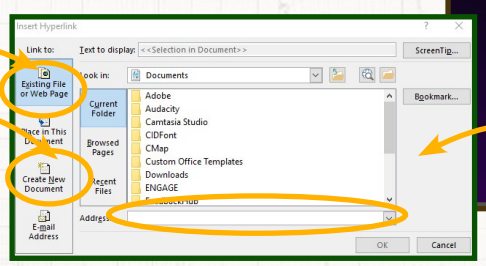
Δ FOR IN SAME DOCUMENT: (Used for menus and page turning links) choose the same document option and then select the slide you want to go to in the larger screen to the right.

Δ Click on the OK button - and you've made your programmed hot spot!

Δ To make the hot spot easier to copy and paste, let's group them together so they always travel as one piece.

Δ Select both the invisible square and the icon. Hit the keys 'control' + 'g' at the same time and that will group those two items together.

Δ To make more buttons like this, just take this one and 'control' - 'c' to COPY and then PASTE. The new icon just needs to have its web address re-set for it to be ready.



Click icon to return to main menu page

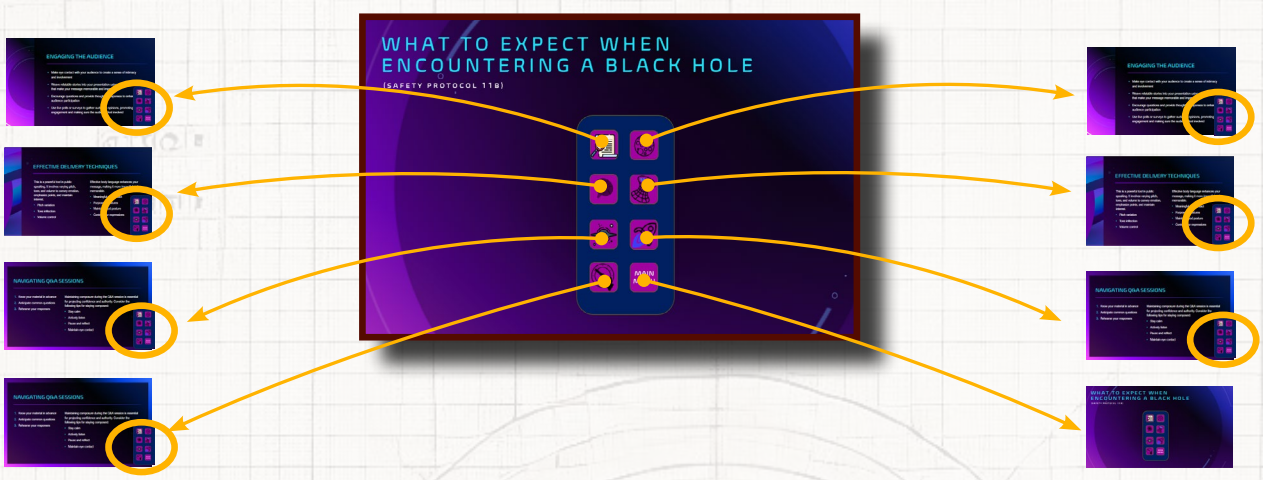
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HOT SPOT DESIGN: NON-LINEAR

PPT

"Hot Spots" are simply an image with a transparent shape over it that is linked to something or somewhere else. HOW you use these could very quite a bit. The non-linear hyperlink structure takes everything you learned from the previous hot spot training and adds ideas on how to make a menu that could transport students to any part of the document at any time. The non-linear navigation promotes exploration and student autonomy.

Main Menu Slide

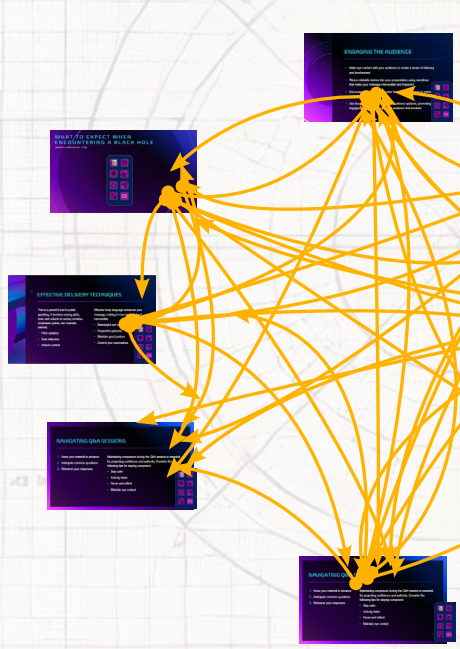


Density content
Menu allows for cross-travel to any slide

Wormhole content
Menu allows for cross-travel to any slide

Travel content
Menu allows for cross-travel to any slide

Back to main menu



The convenience of having a menu becomes more obvious when you begin to map the navagation posibilities.

Now the hot spot design tool has been clustered onto every slide for the student to immediately switch between investigation areas without having to go back to the main menu each time, though they could.

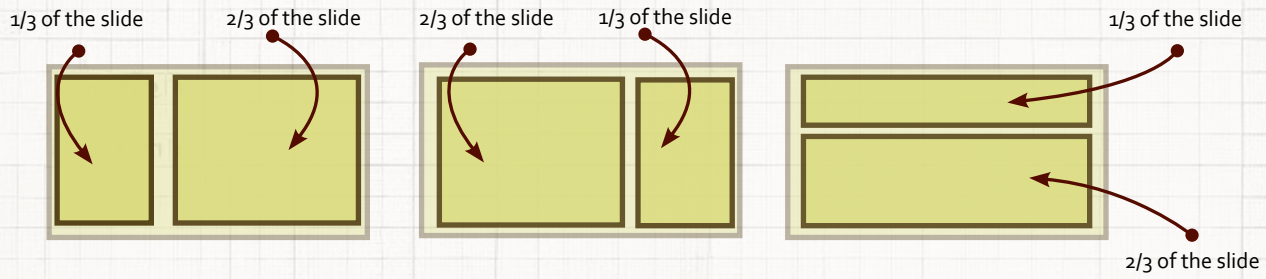
Generally, speaking good software interphase design tends to offer two even three ways to accomplish the same task. Here, we offer both the non-linear and the reverse linear where people "back up" in reverse of where they came in and for some reason that action makes more sense for them to use.

Click icon to return to main menu page

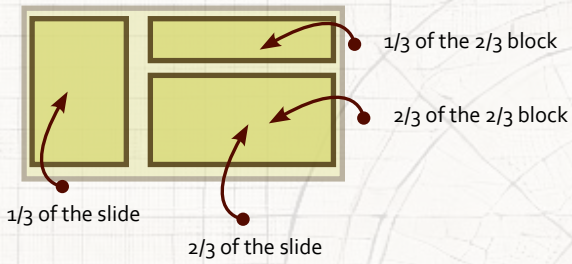
VISUAL PLANNING: MEDIA LAYOUT PPT

Part of the skeletal planning process involves planning out where the visuals will go while the text is being positioned. Omnidocs do not behave by the same design rules as normal PPT presentations. Normally there is an avoidance of text to promote support for the speaker's main points. In the case of the Omnidoc there might be some blocks of text that need to be displayed. Chuncks of instructions for example. Or chunks of text that provide descriptions about images.

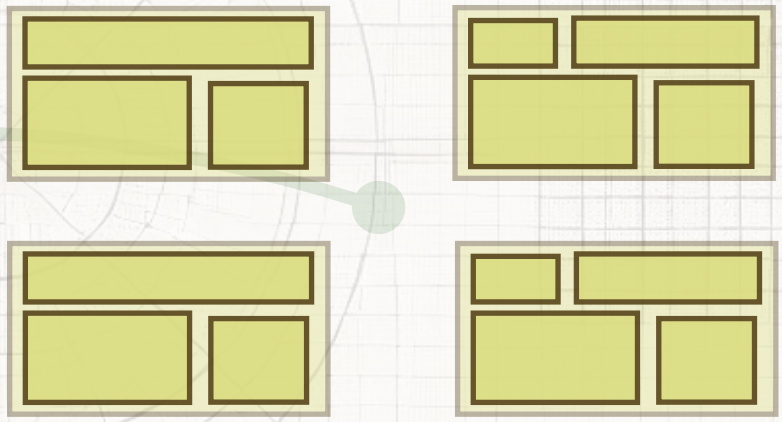
In this training, you'll note there are various traditionally styled layouts that are based on the photographic rule of thirds. Simply put, the main visual pieces are aligned on axis of 1/3 through out the composition.



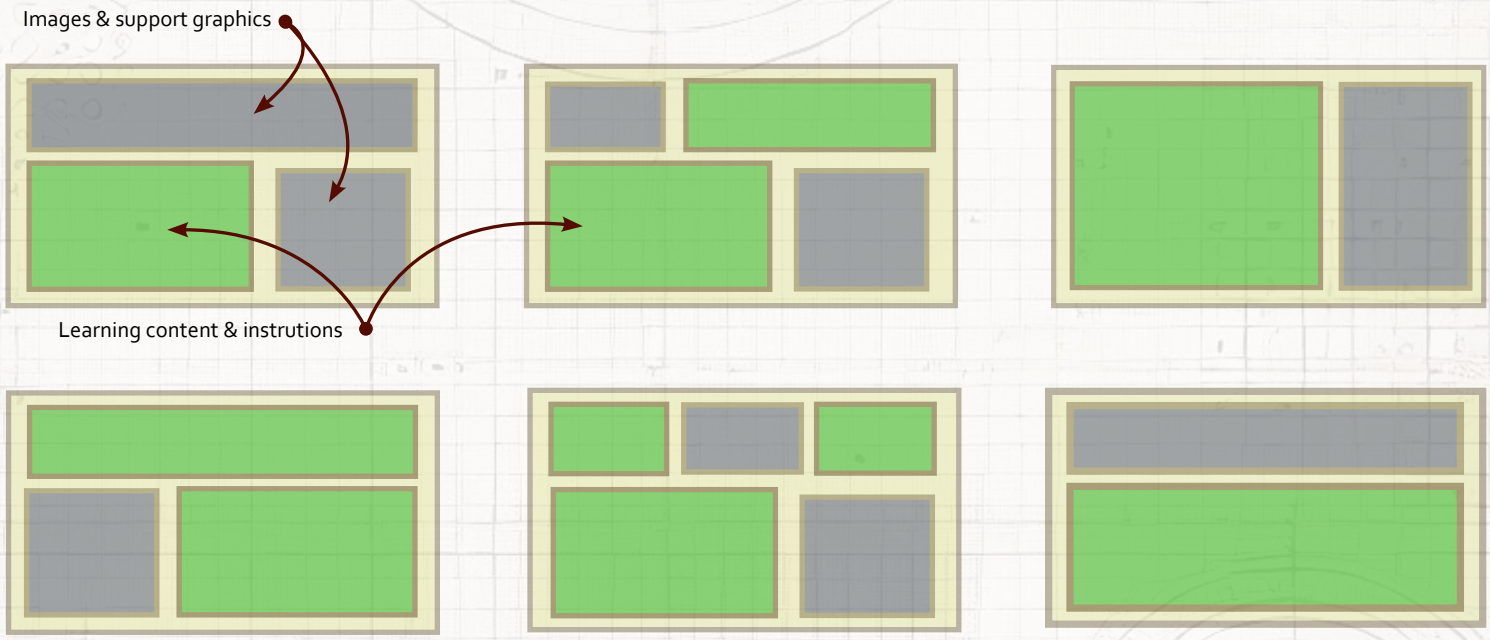
Layouts can also be built in combinations of thirds, like these examples:



Note that every time a block is broken down it's broken down by thrids. Also, not to yourself how seemingly balanced this layout feels. You feel this way partly because most media, TV, ads, movies, and print have been divided up roughly around this 1/3 & 2/3 proportion.



Now when thinking about placing text and images, the same process can be applied in your planning. Depending on the amount of text you needed to put on the slide and the amount of visual support you needed your layouts could look like this:



Click icon to return to main menu page

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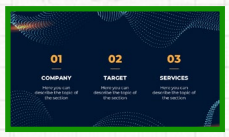
USING TEMPATES: INSTRUCTIONAL LAYOUT PPT

PPT templates offer a huge range of ways to prosition information on a page. Recall that we are making Omnidocs, interactive content delivery tools. Many of these slides would not be as good as others. Here's a general brake down of a slide template backage from www.slidesgo.com. (Template is called "Futuristic")

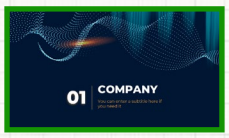
TEMPLATE SLIDES SUITED FOR OMNIDOC USE



Most Omnidocs tend to have a cover.



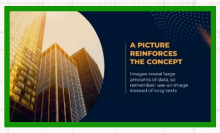
This layout would function well as a possible menu or choice branch where the user has to guess the outcomeguess the of previous content.



This could be used as a section title, though for secondary levels a large introduction page might not be needed.



While the title and content are in a good palce, the slide background pattern is too dominant. Taking up usable space. Unless a color block was put over the design for highlighing a video.



This would be a slide best suited for displaying a video with some side text which supported or asked questions about the video being displayed. Key: Videos do not need to be huge on an Omnidoc



A solid example of a menu page with some explanatory text for younger ages. Menus for older kids tend to be smaller and included with other media.



If a significiat amount of text needs to be displayed, either put it on a rectangular shape or make sure the text is written over a solid high-contrast color.



Suitable for younger ages, as to not overwhelm the younder student with distractions and other focus elements.

TEMPLATE SLIDES *LESS* SUITABLE FOR OMNIDOC USE



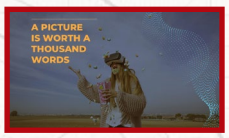
There would be very few useful reasons to waste an entrie slide on a single emphasis word. This is best for delivering live presentations.



There would be very few useful reasons to waste an entrie slide on a single quote. This would be put on a color shape and much smaller, But useful for live presentations.



There would be very few useful reasons to waste an entrie slide on a single quote. This would be put on a color shape and much smaller, But useful for live presentations.



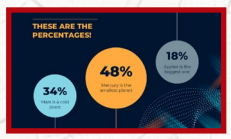
As before, Ominidocs are not designed like traditional presentations. In presentations, minimalism is encouraged. Ours are laid out more like magazines or website pages.



Perhaps this might be useful for elementary applications, but much less so for secondary applications.

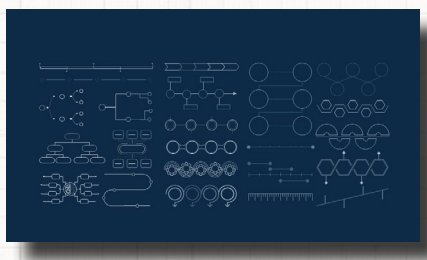


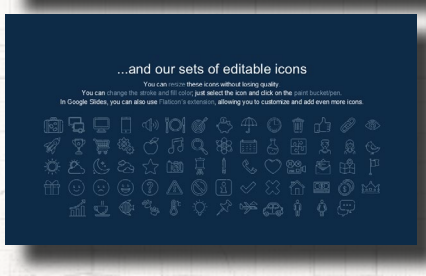
Emphasis slides like this are great for presentations, Omnidocs, not so much.



This might be ok for a menu screen for early elementary, however, the different sizes and colors imply different uses and functions. As much, not so great for a menu at any age.









KEY: One of the GREAT benefits of using slide tempate packages like slidesgo.com are the prolific designs and icons available to use within the Omnidoc.

What you see to the right is a small sample of the types of icons and design imagry available to use with the template.

Great for menus and link icons!

Click icon to return to main menu page

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AUDIO: IMPORTING & EMBEDDING

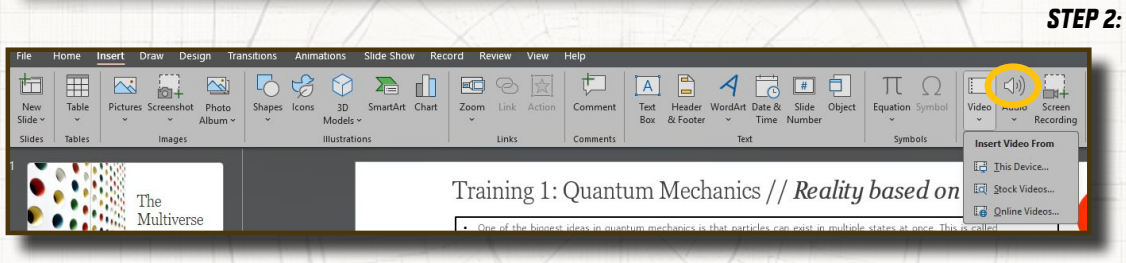
PPT

NOTE: This embedded audio files to play back in PPT will ONLY PLAY IN POWERPOINT! If this document is meant to be exported as an Omnidoc, then we will need to use an Icon-linked hot-spot to bring up the video in a browser window. See "Icon Programming"

For presentation purposes, adding an audio file as background music can be very impacting. Play the right music timed just right and it's a religious experience! In this micro-training I'll show you the quick way to add an audio file, where to put it, and how to tell PPT to delay playing it until just the right time.



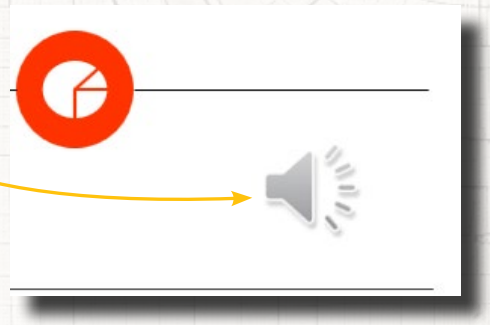
STEP 1: Start with the INSERT MENU



STEP 2: Select AUDIO FILE from THIS DEVICE.

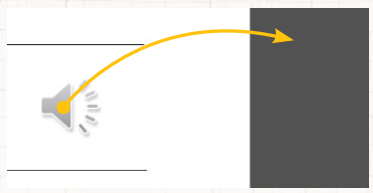
STEP 3:

PPT will place your audio file on the slide lookiung like this.

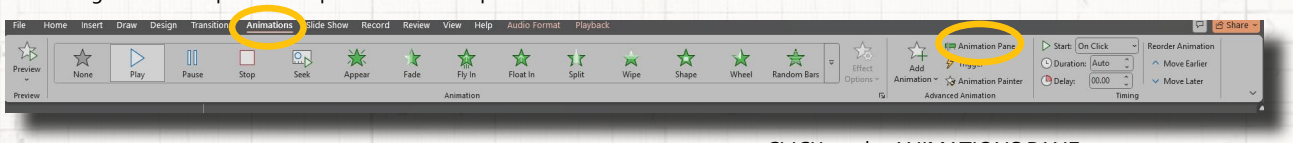


STEP 4:

Move that icon off the slide into the grey area to the left or right of the slide. It will still play, but now you do not have to look at that abnoxious rookie-level audio file insertion.

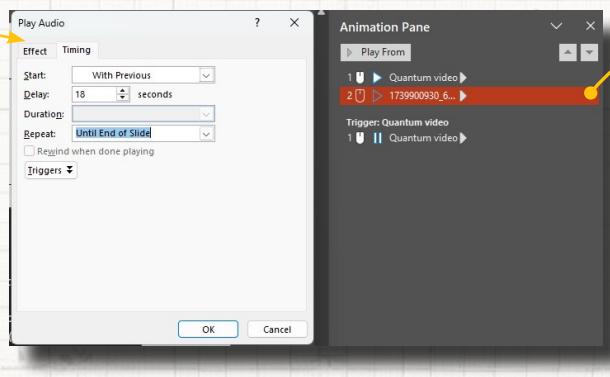


STEP 5:
The timing element requires a couple additional steps.



CLICK on the ANIMATIONS MENU

CLICK on the ANIMATIONS PANE



As seen here, the sound is set to start when the slide starts ("With Previous"). Then there will be a delay and then the music or sound will play.

CLICK on the Highlighted area & Select TIMING.

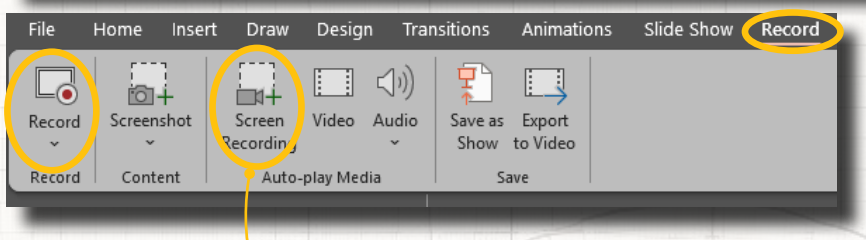
Click icon to return to main menu page

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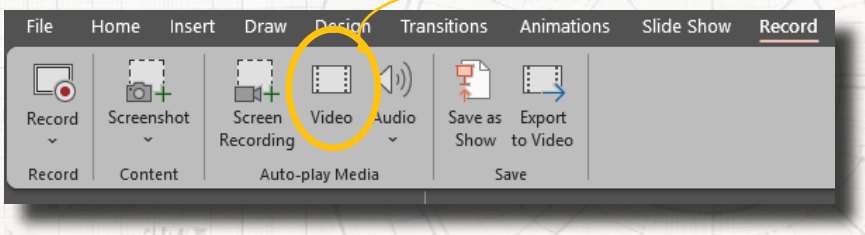
SPECIAL TOOLS: BUILT IN SCREEN RECORDING PPT

One of the most powerful tool in the Omnidoc tool set is the ability to record the screen to demonstrate directions, examples, and provide support for the content on the doc itself. There are a couple of options for this, some more flexible than others, but none better than the options that comes with the program! PPT has a menu option under SLIDE SHOW and RECORD that gives the power to record your screen and an audio recording of your voice.



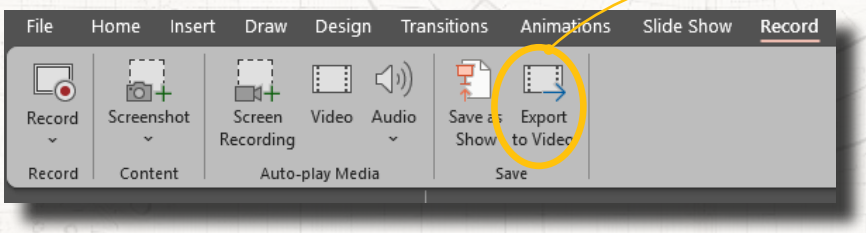


SCREEN PARTITIONING: This button allows you to record over a selected part of your slide should you not wish to record over the entire slide. If file size is a consideration focusing your screen recoding int a smaller screen size reduces the size of the output file substantually.



INCLUDING A VIDEO: Should you wish to play a video... while doing a screen recording (like sort of 'power point inception'), this button inserts a video and sets the animation settings to autoplay. Set up this way, the video will begin playing the instant the slide is visible rather than waiting for a mouse click.

The same goes for the audio button to the immediate right.



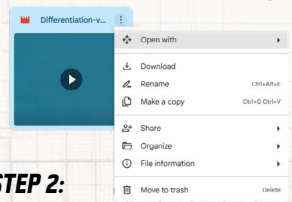
EXPORT FINISHED VIDEO: Once completed, the screen recording can be exported to your computer and saved as an .mp4 file. This is the most widely accepted format for video playback and can be played back by any browser or video playback software on the planet.

PREPPING VIDEO FOR USE: Because Omnidocs are PDF files and hey do not embed videos, we will need to link this video to be played in a new Upload the file to an accessible place on the interent., get the share link, and then embed that link into a hot spot to be clicked on a viewed.

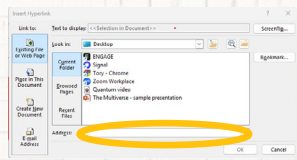


Personal Google Drive
District Google Drive*
District LMS (Like Canvas)
Personal Drop Box account

STEP 1:
Upload your video file to an accessible place on the internet.



STEP 2:
Selecte SHARE link. The change permissions to **"ANYONE WITH LINK"**

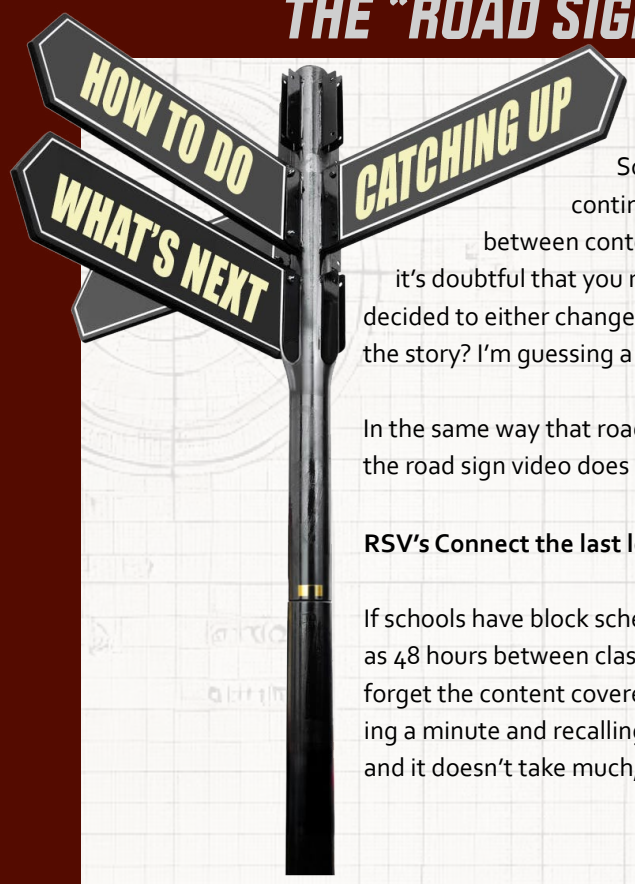


STEP 3:
RIGHT CLICK the hot spot you want to link the video to, and select "Hyperlink". PASTE in the linkin the ADDRESS bar. CLICK OK.

Click icon to return to main menu page

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THE "ROAD SIGN" VIDEOS: SAVED FOR LAST PPT



WHAT IS A "SIGN POST VIDEO" AND WHAT'S SO IMPORTANT ABOUT IT?

So, would the videos you make to direct the student between activities, provide continuity and support, and add to your narrative in a meaningful way so that a transition between content makes more sense with the direction of the story? Well... up until this point, it's doubtful that you really knew where you were going. How many times have you changed gears and decided to either change the story or alter the content you chose to present because it wasn't the right fit for the story? I'm guessing a few times, yeah?

In the same way that road side signs direct you do different parts of a town to see different local attractions, the road sign video does much the same thing. Here's what they are specifically noted for:

RSV's Connect the last lesson with the current one:

If schools have block schedules there can be as much as 48 hours between classes. That's a lot of time to forget the content covered in the previous class. Taking a minute and recalling some of the past content, and it doesn't take much, to bring them up to speed.

RSV's provide an opportunity to transition the narrative and provide backstory:

Some story review will be needed, for sure. However, consider the possibility that the previous content doesn't really lend it self well to be connected to the story. You might need to take a few minutes and present the story filler explaining what happened between the last "episode," or class, occurred and the present.

RSV's brief the student on the upcoming content & potentially new story developments.

A road side video is an idea opportunity to create a dissonance in the students' minds as the class begins. To give the students some mystery elements to be on the lookout for right off the bat is great story telling.

For example, If you were teaching westward expansion to elementary school kids. Part of the video might include a phrase like,

> *"Over the last couple of days, the pioneers have been getting rather lucky. However, I regret to inform you ... their luck is about to run out and you're going see just how bad it gets first hand."*

Yes... it's absolutely "click bait". What do you think people use it? Because even adults can't lay off that dissonance

RSV's reinforce persistent concepts, ideas, and awareness of past experienced key concepts.

Some story review will be needed, for sure. However, that's not the only purpose. Part of the RSV's goal is to recall content from the prior day and remind students how it connects to the content that is looming around the corner.

Below are example's taken from Illuminate XR's exclusive Apollo 11: Impossible Journey VR experience. With their permission, These are three examples of road side videos done for the same 10-day project.

DAY 2



Click or Scan

DAY 6



Click or Scan

DAY 8



Click or Scan

Production notes: *All ten of these videos were recorded in a quite room with some foam sound deflectors, a nice large rug to quiet the "canned" sound that comes from recording in a room with wood floors. The video was recorded on Zoom. Zoom has exceptional live on-the-fly green screen matting. The camera was a rather high end HD USB3 camera and sound was captured with a Samsung QU2 Professional Microphone. Production for each of these videos took about 30 min including scripting, recording and editing. As you can probably tell, all of these were done on the same day.*

Click icon to return to main menu page

Note: This ability is a "Power Point Only" ability. Exporting as an interactive PDF will NOT embedded the videos. However, you could screen record the PPT, but then you can't interact with it... hot spots don't function in video files.

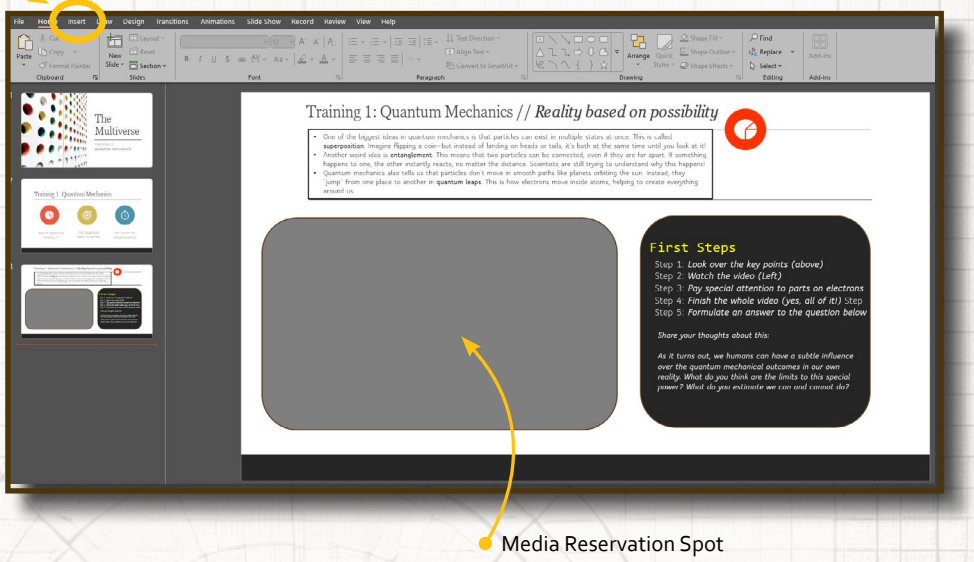
EMBEDDING VFX: VIDEO PLAYBACK PPT

The process of putting media into the PPT program is much easier than itused to be, say 10 years ago. especially when you have to transport that PPT to somewhere else and play it on another computer.

PPT embeds the media now. It used to link it. So if you changed the file of the PPT the links would no longer work and the videos would not play. Now the entire video file is included into the PPT file. This often results in PPTs that are 20-200 Mbs. However, we are in an age of mega-files, where an average iPhone 5 min video can be a couple gigabytes and AAA video game downloads are 2,000 to 100,000 gigabytes!

STEP 1:

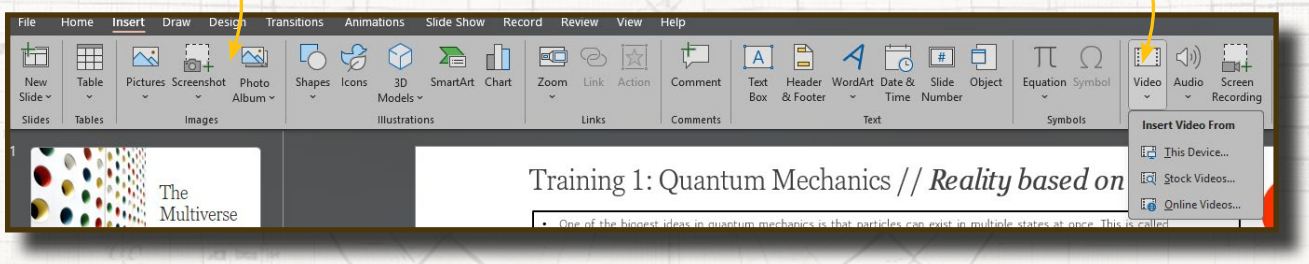
Start with the INSERT MENU



The INSERT MENU

The INSERT VIDEO from THIS device

STEP 2:

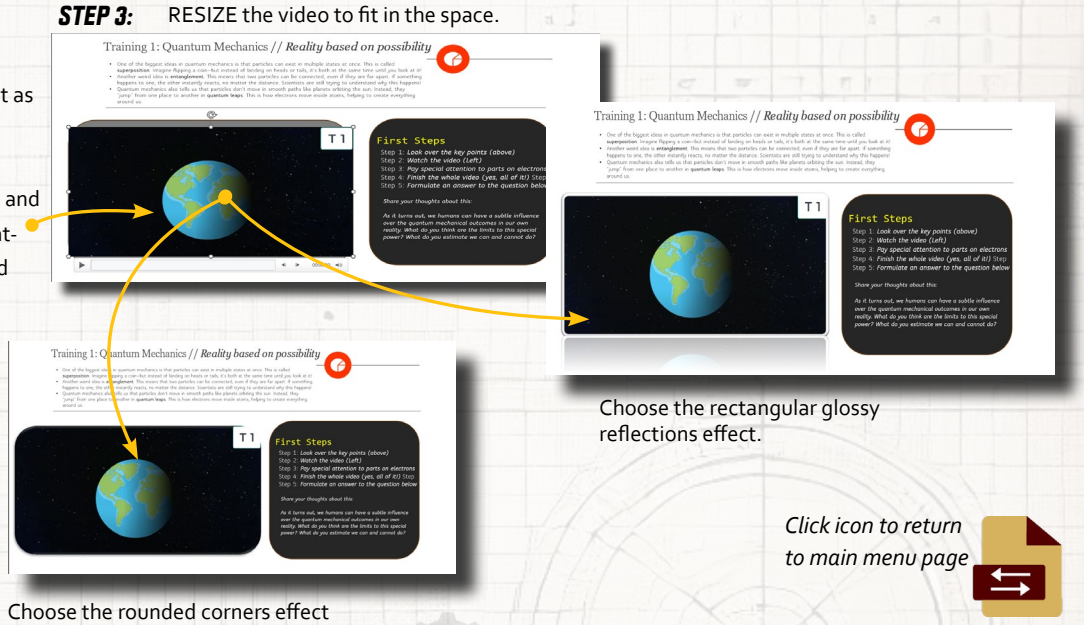


NOTE: This embedded video will ONLY PLAY IN POWERPOINT! If this document is meant to be exported as an Omnidoc, then we will need to use an Icon-linked hot-spot to bring up the video in a browser window.

STEP 3: RESIZE the video to fit in the space.

You can remove the gray space-saver or you can use it as a "setting for the video too play from.

OR... you can right click the video and select **STYLES** and from any number of pre-formatted frames pick a treatment that might make the video feel more embedded into the design.



Choose the rectangular glossy reflections effect.

Choose the rounded corners effect

Click icon to return to main menu page

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SFX: MASKED TEXT WITH VIDEO (PPT ONLY) PPT

A FANCY TECHNIQUE FOR POWERPOINT HIGH-IMPACT TITLE SLIDES.

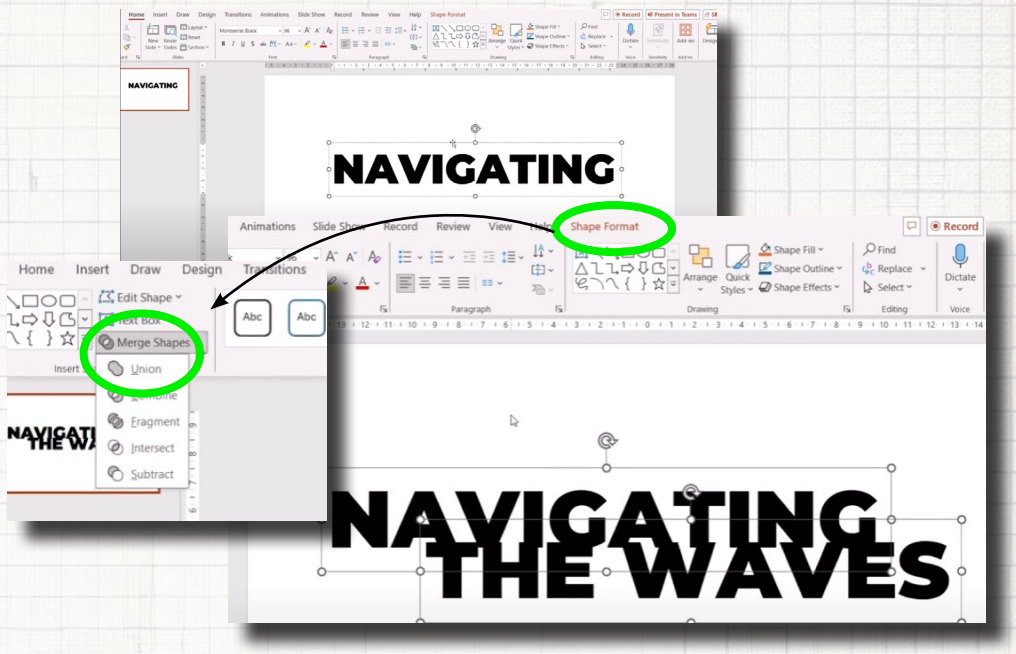
As noted in the page title, this skill is ONLY FOR POWERPOINT and it does not translate when exported to the Omnidoc PDF format.

Step one:
Create your text in separate text boxes, in this case the word "Navigating" will act as the mask that the video will show through.

Using a HUGE FAT font
(Montserrat Black is used here.)

In this case there are TWO text boxes that will form the mask.

Step two:
Select both text boxes and use the "Shape Format" tool to choose MERGE SHAPES into one shape, as seen here. CHOOSE "UNION" from the drop down list.



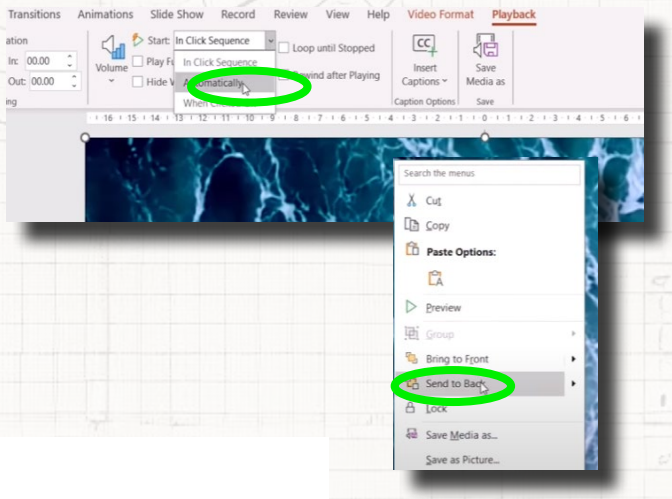
Step Three:
Draw a colored box around the words covering them. This is where the video will go. REMOVE the line from the box. Then RIGHT CLICK and SEND TO BACK to the colored box is now behind the text.

Step Four:
(The order you do this in is important!)
First select the rectangle, Then hit the shift key and select the words. Once that is done, you'll select the SHAPE FORMAT menu, only this time, you'll select SUBTRACT from the MERGE SHAPES drop down menu.



Step Five:
Insert your video from your file on your computer. *Note: The entire video will be embedded into your PPT document.* In the PLAYBACK menu, choose AUTOMATICALLY also select the LOOPED UNTIL STOPPED option to keep the video playing after it finishes.

Finally, click on the video and choose SEND TO BACK.



Step Six:
Select the colored box and choose a color that is high contrast to the colors in the video so the action and movement of the video stand out clearly.



Visual examples provided by Digital Learning Consultant.
YouTube.com (Link to channel: Click here)

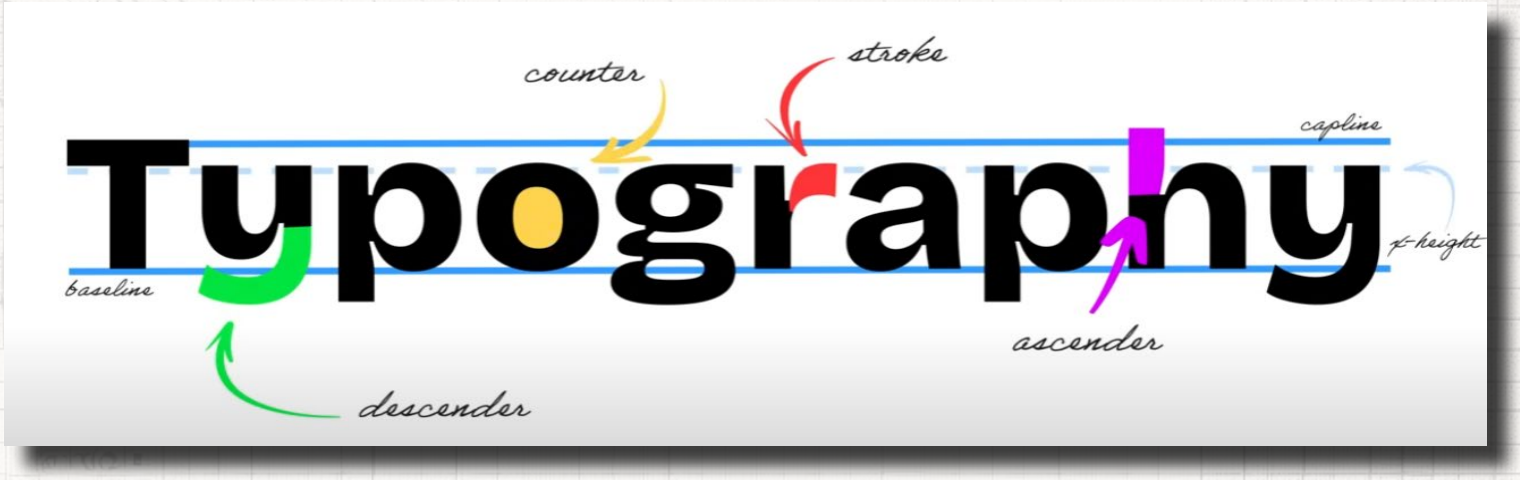
Click icon to return to main menu page

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Video by DesignSpo.co - Please support their video. George is a design genius with a lot to share.

FONT ANALYSIS AND FONT SOURCES

PPT



"The ULTIMATE Guide To Typography For Beginners" offers a comprehensive introduction to typography, tailored for beginners eager to enhance their design skills.

The video starts with defining typography as the art and technique of arranging type to make written language legible, readable, and visually appealing. Emphasis is placed on the importance of typography in design, noting how it influences perception and communication.

Typefaces vs. Fonts:
Clarifying the distinction between a typeface (the design of the lettering) and a font (the delivery mechanism of that design

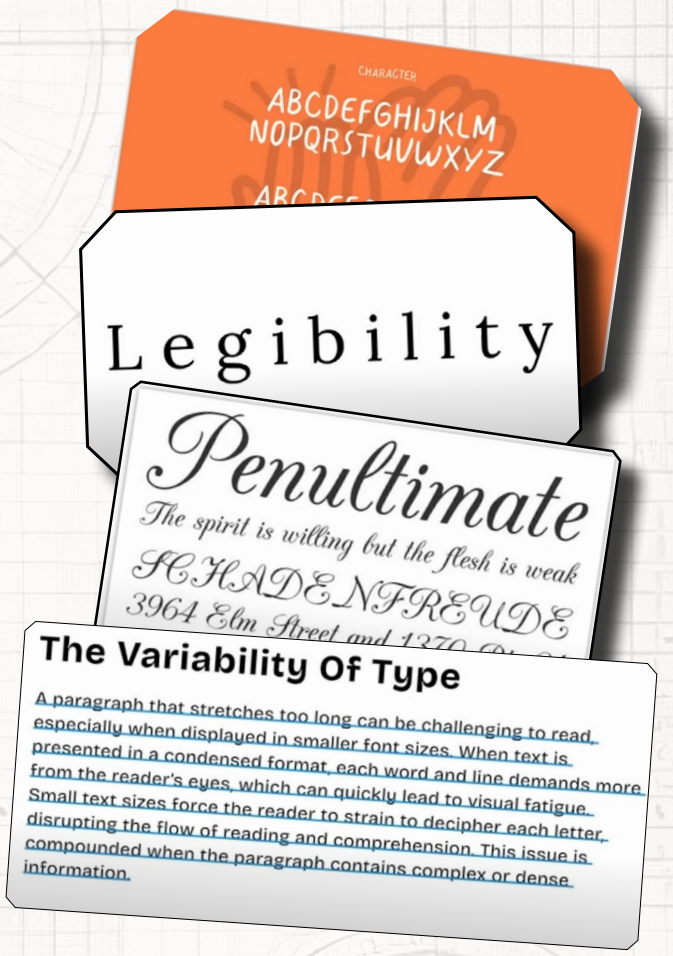
Font Classifications:
An overview of major categories such as serif, sans-serif, script, and display fonts, along with their typical uses and characteristics.

Hierarchy and Scale:
Demonstrating how to establish visual hierarchy through size, weight, and spacing to guide the reader's eye.

Alignment and Spacing:
Discussing the impact of alignment (left, right, center, justified) and spacing (kerning, leading, tracking) on readability and aesthetics.

Combining Fonts:
Tips on pairing fonts effectively to create contrast and harmony without causing visual clutter.

Click PLAY icon to watch videos



Free Downloadable Font Sites

Dafont.com - A huge collection of downloadable fonts that must be manually installed into your system's font folder.

Fontspace.com - another large repository of unique title and highly styled fonts that send a message with every letter.

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COLOR PICKING: PALLETS & COMPLEMENTARY PPT

Color Theory & Psychology:

Color Wheel:
The color wheel is a fundamental tool for understanding color relationships. It arranges colors in a circle, with primary colors (red, yellow, blue) at the base and secondary colors (created by mixing primary colors) in between.

Color Psychology:
Colors evoke emotions and associations. For example, red is often associated with passion and energy, while blue is typically seen as calming and peaceful. Understanding these associations can help you choose colors that align with your design's purpose or desired mood.

Contrast:
Contrast is crucial for readability and visual appeal. Dark text on a light background, or vice versa, is generally easier to read.

Neutral Colors:
Neutrals like white, gray, and black provide a foundation and can be used to balance brighter colors.

Choosing Color Combinations:

Complementary Colors:
Colors opposite each other on the color wheel (e.g., red and green, blue and orange) create high contrast and a visually striking effect.

Analogous Colors:
Colors that are next to each other on the color wheel (e.g., blue, blue-green, green) create a harmonious and cohesive look.

Split-Complementary Colors:
Use the colors adjacent to a color's complement (e.g., for blue, use yellow-green and yellow-orange) for a more subtle, yet vibrant, combination.

"60-30-10" Rule:
A popular guideline suggests using a dominant color (60%), a secondary color (30%), and an accent color (10%) to create a balanced and visually appealing palette.

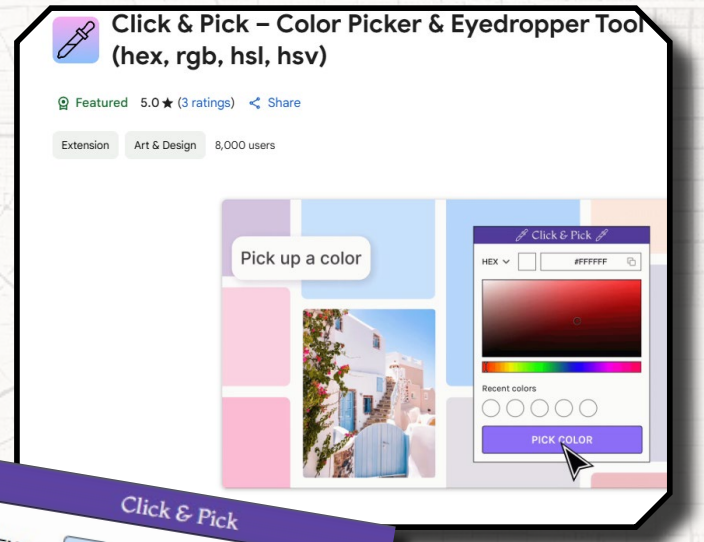
Consider Your Audience & Purpose:

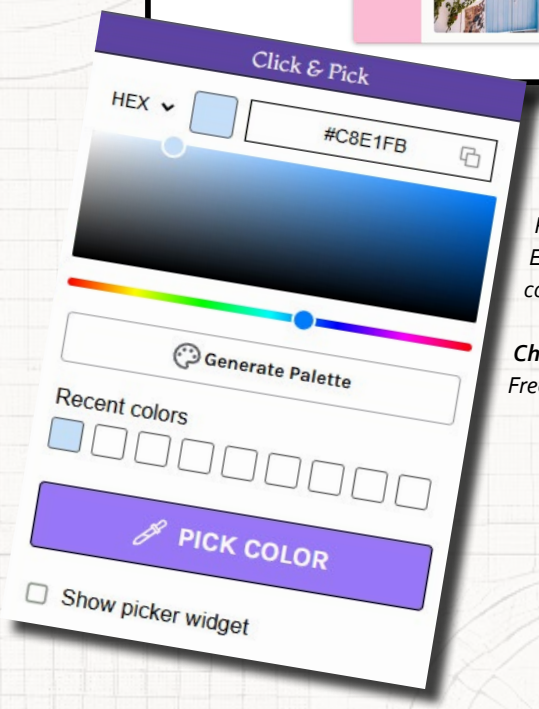
Audience:
Consider your target audience's preferences and cultural associations with colors. For example, certain colors may be more or less appealing in different cultures.

Purpose:
What emotions or messages are you trying to convey? Choose colors accordingly.

Brand Identity:
If you are choosing colors for a brand, consider the brand's values and messaging to create a consistent visual identity.

Tools to help:
Neutrals like white, gray, and black provide a foundation. You will know it when you see it. Often the best inspirations are the works that come from the internet. See a site or a document and want to know the colors that made the site pop?





See a color combination you like on another document or website? Use the Click & Pick - Color Picker and Eyedropper tool to get the color code.

Chrome extension tool
Free @ The Chrome Store

Click icon to return to main menu page

EXPORTING PPT: TO INTERACTIVE PDF

PPT

EXPORT POWERPOINT FILES TO INTERACTIVE PDF FILES For PC (Windows) WITH EMBEDDED FONTS

Step 1: Prepare Your PowerPoint File
Open your PowerPoint presentation.
Make sure all hyperlinks, buttons, and transitions you want in the PDF are working. Ensure that any custom fonts are installed on your system.

Step 2: Embed Fonts
Click on File > Options
In the PowerPoint Options window, go to Save.
Under Preserve fidelity when sharing this presentation, check:

Embed fonts in the file
Select either:
"Embed only the characters used in the presentation" (smaller file)

OR

"Embed all characters"
(best for editing on other computers)

Then click OK.

Step 3: Export as PDF

Click File > Export > Create PDF/XPS Document.

Click Create PDF/XPS.

In the dialog box:
Choose location to save.
Click Options and make sure:
Publish what is set to "Handouts" or "Slides" as needed
Include non-printing information is unchecked unless needed.
Make sure PDF (*.pdf) is selected.
Click Publish.

Step 4: Test Your PDF
Open the PDF in Adobe Acrobat or a browser.
Test all clickable links and embedded fonts (especially if sending to others).

EXPORT POWERPOINT AS AN INTERACTIVE PDF (macOS) WITH EMBEDDED FONTS

Important Note: PowerPoint for Mac does not natively embed fonts into PDFs, even if they're embedded in the .pptx file. However, there's a workaround using Microsoft Word or Adobe Acrobat Pro.

Step 1: Prep the File
Open your PowerPoint on Mac.

Ensure fonts are installed and hyperlinks are active.

Save your file normally.

Step 2: Export as PDF (Basic Method)
Click File > Export.
Set File Format to PDF.
Choose:

Range: All Slides
Options: Ensure "Include Speaker Notes" or "Include comments" if needed.
Click Export.



Image created by Dall-e. Open Ai Prompt: Create a vertical aspect ratio. An image of an industrial scene where steampunk machines perform magical work to change a Microsoft Word file into a PDF file.

Click icon to return to main menu page

SPECIAL NOTE: *The effects presented here will not translate to the Omnidoc PDF format. However, they are notable additions for live presenations, and screen recordings.*

ADDITIONAL PPT: POLISHING TRICKS

PPT

TRANSITION USING THE MORPH TOOL:

Zoom and Morph: Calls attention to specific arteas of a single image morphing the image through the highlight spots.



Ideal for: Marking locations on a map, landscape, or room where focus needs to be held to ensure information is associated with a small area of a larger image.

Crop and Morph: Guided movement used to Identify specific objects or people in a group.



Ideal for: Displaying characteristics between a person in a group of people. Perhaps images have lots of people in it, but you want to focus on just a few of them. This method animates the movement between focus people or objects and then returns to the orginal slide.

Timline Shape Morph: Focusing the attention of the viewer on a singlar object, but on part of that object at a time.



Ideal for: Marking a linear series of events or perhaps a branced timeline where you want to focus on one area at a time.

USE THE "CAMEO" TOOL TO PUT YOURSELF INTO THE PRESENTATION (LIVE OR SCREEN RECORDED):

Cameo: A brandnew tool in the latest version of PPT that allows you to insert your camera image into the PPT as you are delivering it live or if you are screen recording it for students to see when they need to see instructions or directions again.



Ideal for: Omnidocs that need explanation or complex background details that would take up too much text otherwise. Also for directions on how to complete tasks within your u-Learning projects. There's nothing better than explaining the actual topic using the actual project document.

USE THE "MATTED VIDEO" ABILITY TO PROVIDE A DYNAMIC TITLE WITH MOVIING ELEMENTS

Matted video: A brandnew tool in the latest version of PPT that allows you to insert your camera image into the PPT as you are delivering it live or if you are screen recording it for students to see when they need to see instructions or directions again. Multiple cameras add a layer of professionalism and awe.

Ideal for: Omnidocs that need explanation or complex background details that would take up too much text otherwise. Also for directions on how to complete tasks within your u-Learning projects. There's nothing better than explaining the actual topic using the actual project document.

SCREEN CAPTURING: PC

VIDEO

HOW TO TAKE A SCREENSHOT ON A PC

(Windows 10 & Windows 11). These steps work on most modern PCs and laptops made in the last 4–5 years.

Capture the Entire Screen
Press: PrtScn (Print Screen)

- Δ This copies the screen to your clipboard.
- Δ Open an app like Word, PowerPoint, or Paint and press Ctrl + V to paste it.
- Δ To save as a file, use the Snipping Tool or Snip & Sketch (see below).

Capture Only the Active Window
Press: Alt + PrtScn

- Δ This copies the current active window to your clipboard.
- Δ Paste (Ctrl + V) it into another program.
- Δ Save a Screenshot Instantly as a File
  Press: Windows + PrtScn
- Δ The screen dims briefly to confirm.
- Δ The image is automatically saved to:
  Pictures Screenshots folder

Use Snipping Tool (Windows 10) or Snip & Sketch (Windows 10/11)

Open: Start Menu Type Snipping Tool or Snip & Sketch

Choose your snip shape:
Rectangular
Freeform
Window
Full-screen
You can draw, highlight, and save your screenshot.

OR

Shortcut: Windows + Shift + S

- Δ Your screen will dim and you'll select what to captur
  Image is copied to clipboard (paste it or save it using Paint, Word, etc.)

Use the Game Bar
(For Video Capture and Screenshots)

- Δ Press: Windows + G
- Δ Use the camera icon to take a screenshot.
- Δ For screen recording, click the record button or press Windows + Alt + R.

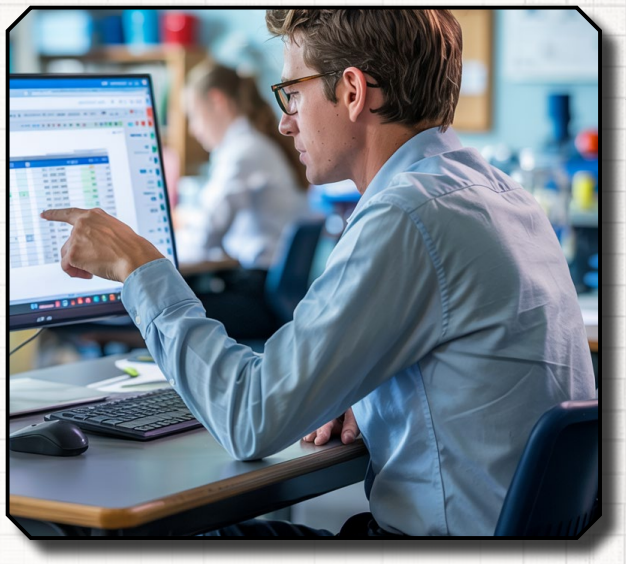


Image created by Ideaogram.ai Prompt: Create an image of a young science teacher on his computer in his classroom, working on his computer. Be sure to show him on a PC computer as well as show the screen and that he is taking a screenshot using software to save the data on the screen.

Why Teachers Might Need Screenshots on a PC?

Let's break it down for all school levels. Screenshots are not just handy—they're essential in the modern digital classroom.

ELEMENTARY SCHOOL TEACHERS

- Δ Capture images of student digital work in apps like Seesaw or Raz-Kids.
- Δ Create printable guides for students or parents with step-by-step visuals.
- Δ Save screenshots of game-based learning progress.
- Δ Classroom interactions in virtual platforms for parent conferences.
- Δ Make simple visuals for anchor charts or slide decks.

MIDDLE SCHOOL TEACHERS

- Δ Record student progress in platforms like Google Classroom or Edmodo.
- Δ Provide visual instructions or reminders for tech-based assignments.
- Δ Capture and annotate browser tabs to help students navigate tools.
- Δ Grab screenshots of interactive simulations or graphs
- Δ Show examples of good formatting or strture in student work.

HIGH SCHOOL TEACHERS

- Δ Capture assessment errors or issues from LMS platforms for documentation.
- Δ Save annotated examples of strong writing, math solutions, or coding.
- Δ Record digital misconduct (e.g., inappropriate messages, off-task behavior).
- Δ Provide screenshot-based tutorials for assignments or software navigation.
- Δ Create visual evidence to support feedback during grading or conferences.

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Microsoft Windows
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SCREEN CAPTURING (STILLS) : MAC

VIDEO

How to Take a Screenshot on a MacBook

(Last 4 Generations: macOS Monterey, Ventura, Sonoma, etc.)

These steps apply to all modern MacBooks, including MacBook Air and Pro models released since ~2019.

Capture the Entire Screen
Press: Command + Shift + 3

You'll hear a camera shutter sound, and the screenshot will appear as a file on your desktop by default.

Capture a Selected Portion of the Screen
Press: Command + Shift + 4
Your cursor will turn into a cross-hair.
Click and drag to select the area you want to capture.
Release to take the screenshot.

Capture a Specific Window
Press: Command + Shift + 4, then press the space bar.
The cursor turns into a camera icon.
Click the window you want to capture.
It saves automatically to your desktop.

Use the Screenshot Toolbar
Press: Command + Shift + 5
A toolbar appears with options to:
Capture full screen, window, or selection
Record screen (full or portion)
Choose where to save the file

This is the most flexible option!

Screen Recording (Video Capture)
Use: Command + Shift + 5
Select a recording option
Start/stop from the toolbar
Useful for demonstrating tasks or
Capturing live activity.



Image generated by Dall-E, Open-Ai Prompt: Create a square image of a middle school history teacher with long brown hair in her mid-30s taking a screenshot on her PC using the snip software. On the screen are the class grades, and she's taking a screenshot of those.

WHY TEACHERS MIGHT USE MACBOOK SCREENSHOTS?

Let's break this down by teaching level. This is especially helpful in virtual learning, grading, PD prep, or student documentation.

Elementary School Teachers

- Δ Save student work from Seesaw,or Google Slides.
- Δ Capture visual instructions to print or email to parents.
- Δ Show app interfaces to help young students log in or navigate.
- Δ Keep track of classroom reward system visuals (digital stickers, charts).
- Δ Create simple how-to guides for subs or assistants.

Middle School Teachers

- Δ Document project work submitted through Google Classroom.
- Δ Capture snapshots of interactive activities (like Quizizz, Nearpod).
- Δ Create visual records of student tech behavior for documentation
- Δ Grab samples of good/bad formatting in student writing or coding
- Δ Capture parts of online rubrics for quicker grading reference.

High School Teachers

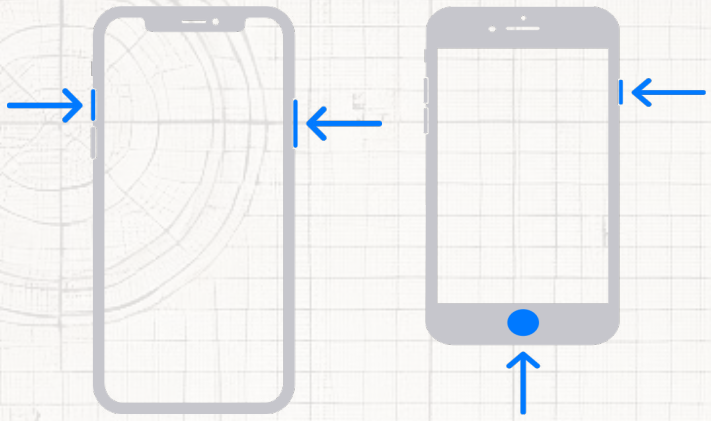
- Δ Grab and annotate complex problems from online textbooks or PDFs.
- Δ Record walkthrough for assignments (especially in science or tech)
- Δ Capture LMS issues or grade discrepancies for parent/student conferences.
- Δ Save screenshots of online discussions or peer reviews.
- Δ Document digital misconduct or cheating evidence.

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SCREEN CAPTURING (STILLS): IOS

VIDEO



HOW TO TAKE A SCREENSHOT ON AN IPHONE

(Last 4 Generations)

The basic method for capturing a screenshot has remained fairly consistent across recent iPhones, thought there are small differences depending on whether the device has a Home Button.

Step-by-Step for iPhones without a Home Button
(iPhone X, 11, 12, 13, 14, 15 series)

- Navigate to the screen you want to capture.
- Press and hold the Side Button (right side) and Volume Up button (left side) at the same time.
- Release both buttons quickly.
- You'll see a thumbnail of your screenshot appear in the bottom left of the screen.
- Tap it to edit or swipe left to dismiss it.

Step-by-Step for iPhones with a Home Button
(iPhone 6, 7, 8, SE (2nd & 3rd gen))

- Go to the screen you want to capture.
- Press and hold the Side (or Top) Button and the Home Button simultaneously.
- Release both quickly.
- The screenshot thumbnail will appear in the bottom left.

AssistiveTouch Method (All iPhones)

This is helpful if buttons are broken or for accessibility reasons:

- Go to Settings > Accessibility > Touch > AssistiveTouch > Turn it On.
- A small gray button will appear on your screen.
- Tap the AssistiveTouch button → Tap Device → Tap More → Tap Screenshot.

Why Teachers Might Need Screenshots on Their iPhones

Let's break this down by school level. This can help justify including this skill in a PD or training too.

Elementary School Teachers

- Capture digital student work to document progress.
- Save quick reference shots of parent communications (texts, apps like ClassDojo).
- Record tech troubleshooting steps for parents or younger students.
- Capture examples of educational games or AR apps in use.
- Save parts of a digital worksheet or book to review later.

Middle School Teachers

- Document behavior or participation records in class apps.
- Save snippets of student project submissions from Google Classroom, Canvas, etc.
- Capture interesting examples from science or history apps.
- Save images from web-based tools for later class discussion.
- Demonstrate how to use certain apps/tools during a tech lesson.

High School Teachers

- Take screenshots of complex instructions from apps or LMSs (Canvas, Edmodo, etc.).
- Save and annotate diagrams or problems for flipped instruction.
- Record key info from texts, college prep apps, or grading platforms.
- Capture evidence of plagiarism or misuse of digital tools
- Provide visual directions for tech-based assignments or remote learners.

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SCREEN CAPTURING: ANDROID VIDEO

USING THE BUILT-IN SCREEN RECORDER ON ANDROID

(Android 11 and newer)

Most Android phones (Samsung, Google Pixel, OnePlus, etc.) running Android 11 or newer come with a built-in screen recorder.

Step-by-Step: Built-in Screen Recorder

- Δ Unlock your phone and swipe down from the top to open the Quick Settings panel.
- Δ Swipe down again (if needed) to see more icons, and look for "Screen Record" or "Screen Recorder".

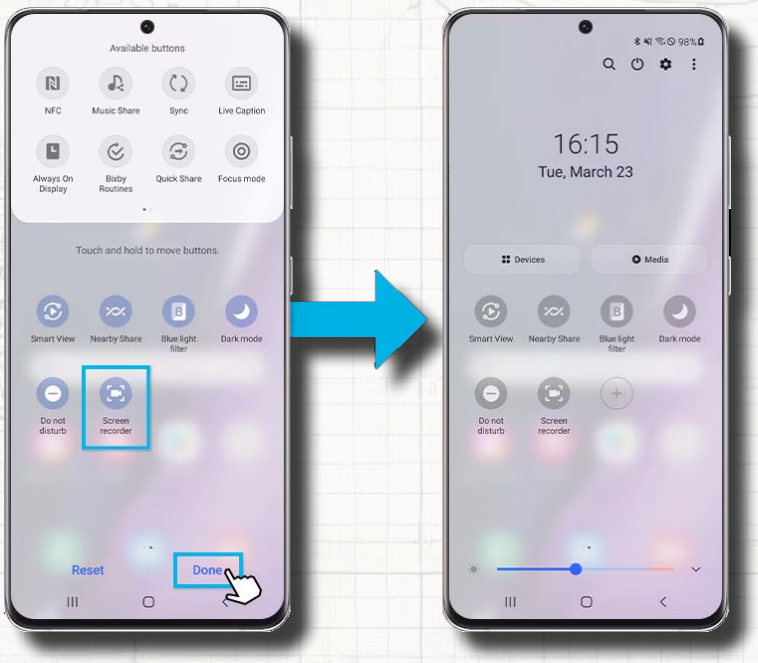
If you don't see it:

- Δ Tap the pencil icon or "Edit" to add it to your Quick Settings menu.
- Δ Drag "Screen Record" to your active icons.
- Δ Tap "Screen Record".

A small pop-up appears:

- Δ Choose whether to record audio (microphone, device audio, or both).
- Δ Decide if you want to show touches on the screen.
- Δ Tap Start (it may count down from 3...2...1).
- Δ Do whatever you want to capture on your screen.
- Δ When done, swipe down and tap the Stop button in the notification panel.

Your video is saved to your Gallery/Photos app (usually in a "Screen recordings" folder).



Using a Popular App – AZ Screen Recorder (Free & Well-Rated)

- Δ Use this if your phone doesn't have a built-in screen recorder *or if you want extra features like live streaming, face cam, or drawing tools.*

Step-by-Step: AZ Screen Recorder

- Δ Download AZ Screen Recorder from the Google Play Store.
- Δ Open the app. You'll see a small floating menu bar on the side of your screen.
- Δ Tap the red camera icon (record button).
- Δ A confirmation dialog will appear — tap Start Now.

Your screen is now being recorded. Do your demonstration or navigate as needed.

To stop recording:

- Δ Swipe down the notification panel, and tap Stop, OR
- Δ Tap the AZ floating button again and press the stop icon.
- Δ Your recording is saved automatically and can be accessed:
- Δ From within the AZ app, or

In your Gallery/Photos app under an "AZ Screen Recorder" folder.

Bonus Tips:

- Δ Microphone toggle is helpful if you want to narrate.
- Δ Make sure Do Not Disturb is turned on to avoid pop-up notifications during recording.
- Δ **Storage space:** Ensure you have enough free space before starting longer recordings.

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ASSESSMENT: BASED SCREEN CASTING (ONLINE) VIDEO

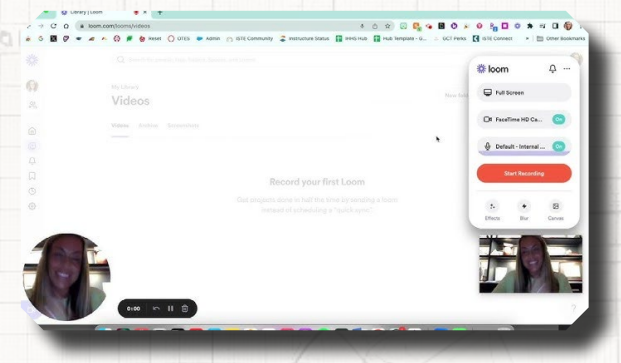
LOOM: A BRILLIANT OPTION FOR FAST VISUAL COMMUNICATION & ASSESSMENT

Online resource with downloadable app

Loom is a video messaging tool designed to streamline asynchronous communication using screen and webcam recordings. It is especially popular in educational and professional environments for its ease of use, accessibility, and time-saving advantages. Specifically in the area of assessment, Loom provides exacting feedback for assessments that cannot be graded automatically, or by an AI.

Core Features:
Screen + Camera Recording + Audio
Users can record their screen, webcam, or both simultaneously to supports full-screen, window, and browser tab recording.

Instant Sharing and Cloud Storage
Once a recording is complete, it's automatically uploaded to the cloud. A shareable link is instantly generated—no need to download or attach large files - This is much like the Zoom recording links when shared. The Zoom servers store the files, which means you do not have to sacrifice drive storage space to keep your videos.



Viewer Insights
Users receive notifications when someone watches a video, along with analytics like viewer duration and engagement (comments and emojis) along with notifications to the Loom video creator that the video produced has been viewed.

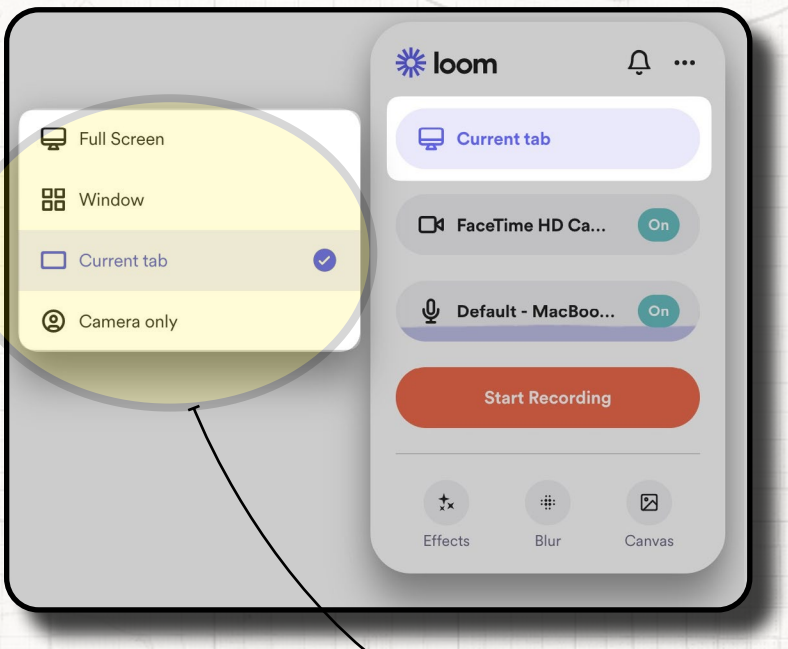
Drawing Tools and Mouse Emphasis
During a recording, users can highlight the cursor, use a pen tool to annotate, or use click animations to direct attention.

Video Trimming and Editing
Trim, split, and cut unnecessary segments with a simple video editor. Add calls-to-action, custom thumbnails, and transcripts.

Commenting and Emoji Reactions
Viewers can leave time-stamped comments or emoji responses, encouraging interaction and clarification.

Transcription and Captions
Auto-generated captions improve accessibility. Transcripts are editable and can be downloaded for documentation. With paid versions, AI will summarize the video into a couple of paragraphs for easy communication.

Mobile and Desktop Apps
Available on Windows & macOS



Multiple Recording Options:
The larger the screen space, the larger the file. If you want to reduce file size use a window or just a selected portion of the desktop. Additionally, a focused selection like a single tap on a web browsers helps focus the viewer and prevent unneeded distractions. However, when recording instructions on how to use an app, it might be useful to use the entire screen.

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ASSESSMENT: BASED SCREEN CASTING CONT. VIDEO

SUMMARY OF BENEFITS FOR TEACHERS EVALUATING COMPLICATED PROJECTS AND PAPERS

Loom offers substantial advantages for educators tasked with reviewing complex student work:

Ideal for written work & projects:
Digital Projects - like PPT, brochures, art pieces, Canva productions
Videos - watching videos and commenting as the video plays back. Pause for additional commentary.

Efficient and Personalized Feedback
Teachers can record themselves giving detailed feedback while displaying student work on-screen. This helps students understand nuances and tone that written comments may miss.

Visual and Verbal Clarity
Explaining complex rubrics, highlighting specific text or sections of a project, or guiding students through a correction process becomes much more effective when teachers can show and tell simultaneously.

Time-Stamped Comments
Loom's viewer comments feature allows students to ask questions at specific moments in the video. This supports follow-up and ongoing dialogue without additional meetings.

Documentation and Reflection
Teachers can keep a video archive of feedback given, useful for parent conferences, IEP support, or administrative review. Students can also revisit feedback multiple times, aiding reflection and revision.

Saves Time
Speaking is often faster than typing, and Loom's auto-upload and instant link-sharing eliminate the need for complex file management.

Student Use for Submissions
Students can also use Loom to explain their work—perfect for evaluating meta-cognition, oral communication skills, or project rationales.

Incoming Endorsement!



As a professor that reads custom written work all the time in an online program, feedback to students has always been a challenge. Attempting to write effective commentary in a time efficient way is a huge challenge. And … if you haven't noticed I'm missing my index and middle fingers on my left hand. This makes typing even more of challenge. My own challenges aside, I have taught 5 classes now using only Loom to present feedback for the student's written projects. The students LOVE IT! I've been an advocate for the service since I started using it. Making Loom videos for assessment purposes provides the most comprehensive and useful feedback of any tool I've ever used for assessing written work.

- Dr. Temple, 2024

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RECORD YOUR TALKING HEAD: IN ZOOM

VIDEO



Video taken from Illuminate XR's "Impossible Journey" learning intensive that uses VR to explore the Apollo 11 launch and then build a base on our moon.

IDEAL FOR RECORDING YOURSELF WHEN NO ONE ELSE CAN DO IT.

Zoom-Zoom...

On more than one occasion, at lease several for this book and many more times for projects that required content delivery with a cleanly cast green-screen background, I've turned to an unlikely source to do some video heavy lifting.

What makes Zoom ideal for this sort of thing?

Amazing Background Removal: Green screens open up a wild amount of creative possibilities. The example above is a screen shot of a video for a project produced by IXR (Illuminate.com) where the course lead uses "road sign" videos to guide the students along on their Apollo 11 discovery journey. The background was produced by Ideology.ai (it took 4 renders to get it right-ish). This was a still image that was shared among the teachers in the course. We also could have had looping video in the background as well had we had the right footage to use.

What about the video quality?

For internet use, a HD camera will do quite nicely: That said, I use a more expensive auto focusing desktop camera that has a very high quality lens. I also use a Samsung high-gain studio microphone that does an exceptional job or recording voice and not much else.

I think it would be fair to say the video example above might be the best looking Zoom output possible with current technology (2025) that "normal" people could afford to purchase.

How do we do this?

Just use Zoom like normal: Thanks to COVID we have more hands on experience with Zoom than we would ever like to have. As a result most adults (and kids) are familiar with the Zoom call process. However there are some extra's that will make the recording easier to work with.

To record yourself:

Open your Zoom account
Either make a call, or open up your "personal room"
Open the call
Open your video adjustments option under the camera
Select "I have a green screen"
Click the button that allows you to sample your green screen color
Choose a background from your computer
Close the video adjustment
Go to video settings and make sure you are recording in HD
Go to your audio settings and ensure the mic you want is active.

As you begin to record, Zoom will ask you if you want to record to the cloud or to your local computer. Choose LOCAL COMPUTER.

And you're off and running! You will make mistakes, no worries. You'll need to use a video editor of some kind after you record for maximum professionalism.



This camera is a Razor Kiyo Pro that uses 60FPS with an adjustable field of view.

Cost: ~$100.00 (2024)

Below: Samsung DL High gain studio microphone. USB connector to computer.

Cost: ~$200.00 (2011)



87" Collapseible Chroma-key green screen panel. Retracts into it's own metal box as well as stands itself up. Best if leaned against a wall.

Cost: ~$220.00

If you want to do green screen work or have the best Zoom background imaginable, this thing is a MUST!



The whole set up. It's missing the laptop that coordinates the Zoom recording. Nothing too fancy.

And yes... that is a Ghostbuster Proton Pack on the wall.

When finished recording:

Hit stop recording
Computer will open up the folder it wants to save your work in.
Save your video, could take a minute if the video is long
Go to DOCUMENTS folder - will see the Zoom folder
Inside is the recorded session folders listed by date
Open and move your .MP4 file you recored into a project file
Once moved, you can open up your editing software
Then edit out the mistakes.

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RECORDING VIDEO: INSIDE VIRTUAL REALITY (META) Video

CAPTURING VIDEO USING META 3 HEADSET (THIS IS THE GOOD STUFF!)

Method 1: Using Built-In Meta Recording Tools
(Quick & Easy)

This method works for most apps and environments, including Horizon Worlds, First Encounters, games, and VR workspaces.

Step-by-Step:

- Δ Put on your Quest 3 headset.
- Δ Go to the Universal Menu:
- Δ Press the Meta button (on the right controller) to bring up the universal menu.
- Δ Select the 'Camera' icon on the bottom bar.
- Δ Choose 'Record Video':
- Δ A pop-up will confirm recording has started.
- Δ A red dot will appear in your view (only visible to you).
- Δ Perform your scene/activity.
- Δ Everything you see (excluding overlays like system menus) is recorded.
- Δ Stop the recording:
- Δ Open the universal menu again.
- Δ Click the red 'Recording' icon to stop.
- Δ Access your recording:
- Δ Remove headset.
- Δ On your phone, open the Meta Quest mobile app > go to 'Gallery'.
- Δ Alternatively, connect headset to PC via USB and browse This PC > Quest 3 > Internal shared storage > Oculus > Video Shots.

Notes: *Resolution is typically 1024x1024 per eye; Meta crops the final video to a 1:1 or widescreen 2D format.*

Audio is captured via built-in mic.

Method 2: Using Voice Commands
(Quick Hands-Free Option)

Step-by-Step:

- Δ Say: "Hey Meta, start recording."
- Δ To stop, say: "Hey Meta, stop recording."
- Δ Works just like manual capture, but without needing to open menus.



Do the impossible and make it look like it happens every day. The untold power held by the affordances of VR are next level. Only a sound infrastructure and policies stand in the way of the greatest learning experiences yet. However, until that happens, YOU can always bring the excitement to them by recording your experiences to share.

Method 3: Casting + External Recording
(Higher Quality + Audio Control)

This allows for more control, including live audio mixing and desktop overlays.

Step-by-Step:
Open the Meta Quest app on your smartphone or go to https://www.oculus.com/casting on your computer.

Start casting:

- Δ On the Quest 3, go to Camera > Cast > Choose device (e.g., phone or PC browser).
- Δ On your PC, open screen recording software: Examples: OBS Studio (free), Nvidia ShadowPlay, etc.
- Δ Start recording your PC screen as it displays the cast.
- Δ Optional: Add mic input, webcam overlay, etc. Stop the recording on your software.

Pros:

- Δ Higher quality resolution (based on screen recording settings).
- Δ You can add commentary or use green screen overlays.
- Δ Good for tutorials, YouTube, or mixed-reality content.

Cons:

- Δ Adds minor latency - watch your screen refresh rate
- Δ Quality is limited by WiFi bandwidth during casting: recording sessions are best to be done in areas that are VERY HIGH bandwidth. If you can be next to the wireless router, so much the better!



Curious about what Meta Quest 3 captured video might look like?

Scan the QR code here and see what happens when you want to take your students to the moon on the Apollo 11 Saturn V rocket. A first row seat to history. Scan and watch how this content can be brought to share with your students.

VR Source:
Apollo 11 Quest. Available in the Meta Store.

Cost:
$9.99

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CAMERA STABILITY TOOLS FOR YOUR CELL PHONE VIDEO

CAMERA STABILITY = INCREASED PRODUCTION QUALITY.

For teachers creating instructional content, this shift couldn't have come at a better time. Traditional HD cameras often required a steep learning curve – understanding aperture settings, white balance, focus modes, and a dozen other technical details that had nothing to do with actually teaching. Now, a teacher can pull out their phone, hit record, and focus on what they do best: educating students.

The real game-changer isn't just the phone itself, but the affordable accessories that make smartphone video creation truly professional. Take something like the DJI Osmo Mobile 7P or the Insta360 Flow 2 Pro – these gimbals stabilizers cost a fraction of what professional camera equipment used to run, yet they deliver buttery-smooth footage that would make film school graduates jealous. For under $200, you can get Hollywood-level stabilization that automatically tracks your movement as you demonstrate a science experiment or walk through a historical site.

Even simpler tools are making a huge difference. A basic Amazon tripod for $30 can transform shaky, amateur-looking footage into professional presentations. Note the flex-pose stand. That feature allows the creator to pose the camera in unique positions and an a wide variety of unconventional surfaces.

What's particularly exciting is how these tools level the playing field. A teacher in a rural school district now has access to the same video quality as someone with a massive production budget. The smartphone in their pocket shoots better video than the expensive cameras news stations were using just a decade ago.

The software side of the equation is equally impressive. Modern phones automatically handle exposure, focus, and color correction in real-time. Features like automatic subject tracking mean a teacher can move around their classroom while the camera intelligently follows them, keeping them perfectly framed without any technical expertise required.

This democratization of video technology is particularly powerful in education. Teachers can now create flipped classroom content, document field trips, record student presentations, and share knowledge with colleagues around the world – all with tools that fit in their pocket and cost less than a single textbook. The transition from dedicated cameras to smartphones isn't just about convenience or cost savings. It's about removing barriers between educators and the tools they need to create engaging, professional content.

This all being true, there is some real lament for the teachers that have spend tens of thousands of dollars of their own money to utilize the technology of the day, only to have it become nearly obsolete and unusable within the decade. The cost of learning great information is rarely cheap. But hands on experience is the priceless dividend.



The DJI Mobile 7P is the whole package. Mobile stability as well as smooth motion footage, it launches and pairs quickly to any phone. It's the best, but also is priced like it. **$149** (Amazon).



Like the DJI Model, The Insta360 Flow 2 Pro is at the top of the camera stability market. It has all of the same tracking and smooth video capture of the DJI, perhaps with a better stand. **$159.99** (Amazon).



This is the Amazon Basics cell phone holder for still shot stability. For the dollar it might just be one of the best options on here. Note the remote providing you the opportunity to start and stop remotely.
$11.19 (Amazon)



The Auto Face Tracking Phone Holder is key if you're at a board and your needed to move around to show large flowing ideas across a wide horizontal surface, this camera can follow you and track where you go. Powerful for the small cost. **$29.99** (Amazon)



Camera swivel becomes far more smooth when your large body muscles are in charge of the rotation. This double hand-held gimble gives the create double hand stability as well as the options for additional add-ons
$19.98 (Amazon)

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CAMTASIA: WORLD CLASS SCREEN RECORDING VIDEO

Pro-level screen captures priced reasonably

As an Eduneering developer, screen capturing is just about as common as screen capturing your own Omnidocs for instructional reasons. Camtasia by Techsmith has been the hallmark in screen capturing for over a decade. Nothing even comes close. The only draw back being it costs money.

Given that this is as good as it well ever get, $128.88 billed annually. Side note: this is rather frustrating because it used to be a flat fee. Version 9 was the last version to be sold as a stand alone program without a subscription. Who knows, maybe if there's enough Eduneers, maybe the department could subscribe to it so everyone could have it?

The RECORD window:
Used to start and stop recording, to measure out and record your screen, choose audio inputs, which include recording or not recording the system audio.



Secret Power:
Record the screen of a favorite piece of music and export the file as an audio file only.

Camtasia editor interface:
Simple, versatile, and powerful.

Click to Visit the Techsmith Website

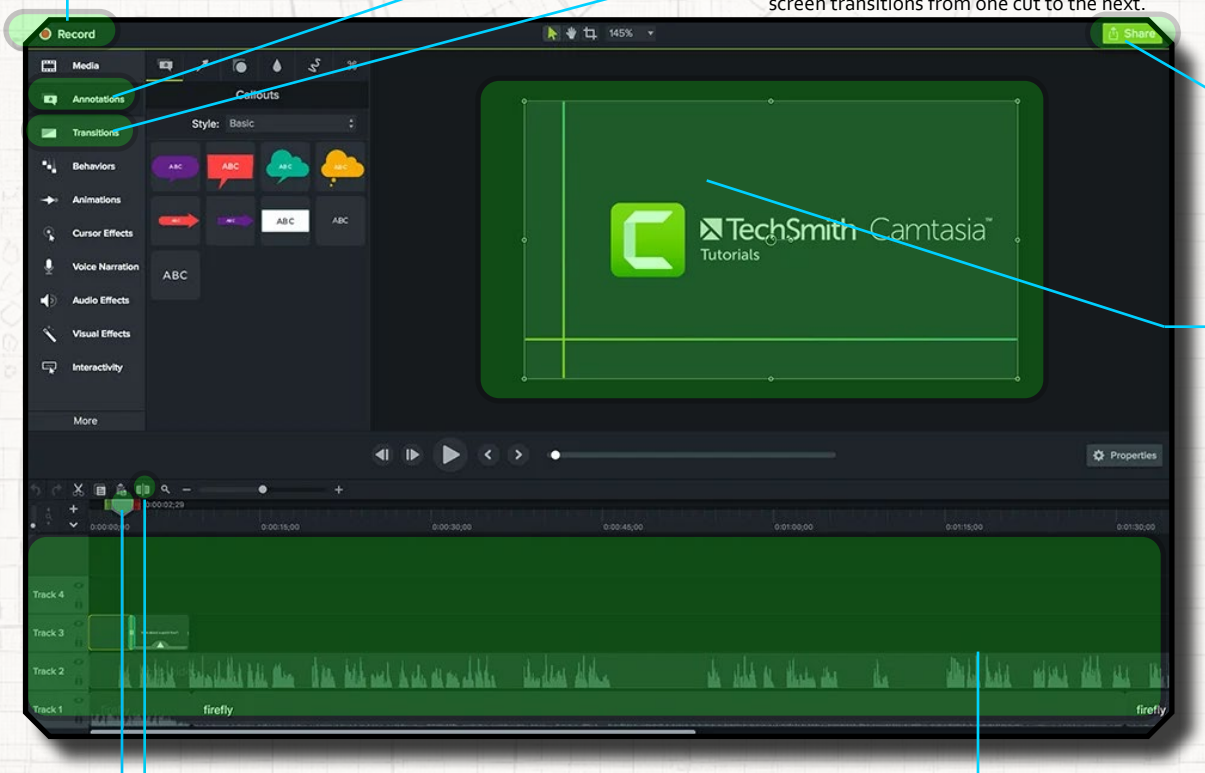
Recording
(Essential/Educational version)
- Screen Recording
- Camera Recording
- Audio recording
- System audio recording
- Mouse paths, clicks, and keystrokes
- Unlimited Recording

Editing
(Essential/Educational version)
- Non-linear editing
- Filters, transitions, and visual effects
- PowerPoint importing
- Quick layout options
- Cursor animation
- Text animation
- Brand standard logos, fonts, colors
- Starter stock audio and video
- Starter stock photos and graphics

The Record button: launches the program that lets you record the images and videos on your computer screen.

Annotation: How you put text with colored boxes or no boxes to annotate your video or label objects on the screen.

Video Transitions: Select from a number of cross-screen transitions from one cut to the next.



Export button: The "Share" button will export your video into many different types of video. It also has the ability to install quizzes into the video for students to take to ensure attention was spent on the video content.

The monitor: This part of the program shows you the image that's on the timeline and how it would appear if it were exported.

The "Cut" Button: Move the 'Scrub Line' to time you want to remove. Position, hit the cut button, position on the back end of the clip, hit 'cut' again.

The "Scrub line" is the line you move across the timeline to see different parts of the captured footage on the monitor.

The Timeline: The place the clips are place, cut, and organized in a sequence that makes the final video before exporting. It's the "work space" for Camtasia projects.

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VIDEO EDITING PC: PRIMERE ELEMENTS

VIDEO

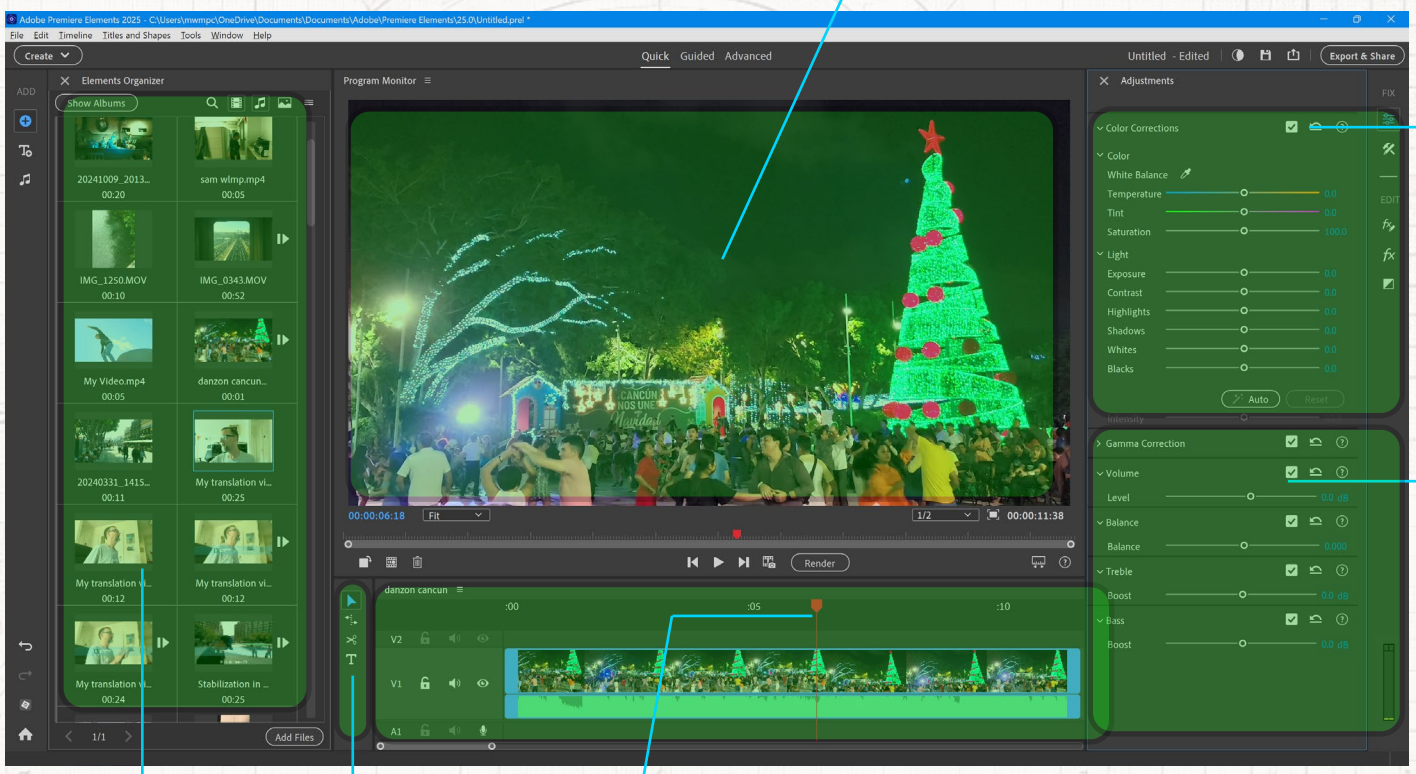
Premiere Elements: The best budget PC Video Editor

Click to Visit a Site you Can Buy Premiere Elements

Technically you could use Camtasia to do a good deal of your basic editing. However, should you require a bit more editing control, image control, audio control, Elements is your ticket. The video editor has 60-70% of the most commonly used functions of Premiere Pro, only without the price tag. Teachers get a 3-year license for $79.99 (20% savings over the non-educational license. Elements will edit just about any kind of video and will allow you to take videos from multiple devices and codecs and edit them all seamlessly in the same place. Moreover, Premiere Elements can matte green screen work. With green screens you can put someone, anyone, anywhere you want to put them. The ability to use green screen matting really opens up the story telling potential.

Pro-Tip: This can be a tricky process to learn. Do not be surprised that you could spend 3-4 hours making a 3-4 minute video. After having done a few projects that time can be cropped down to 30 min to an hour

Adobe Premiere Elements Editing Interface:
Just about every tool you want to use is just one or two clicks away. The layout is very efficient.



Project Monitor: Allows the editor to the project visual frames at the location of the scrub line. Where ever the scrub line is, that's what shows on the monitor.

Color corrector: Color corrector is one of many "tools" that can be opened and used to beautify your footage.

Gamma Correction Window: Gamma values are visual a quality relating to brightness of a video clip.

Media: This window contains all of the imported media into the project. Every video clip, audio clip, every title plugin, you can drag and drop onto the play line to incorporate the clip into the video project. Just drag the clip from here to the timeline at the proper location. Now that media clip is part of the video.

The Timeline: The place the clips are place, cut, and organized in a sequence that makes the final video before exporting. It's the "work space" for Camtasia projects.

Timeline Tool Bar: This bar contains the point/select tool, the cutting tool for objects on the timeline, and the text tool for writing and labeling objects in the video for the viewer.

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VIDEO EDITING: MAC iMOVIE

VIDEO

iMovie: For the Mac or the iPhone, It's Easy, and Fun

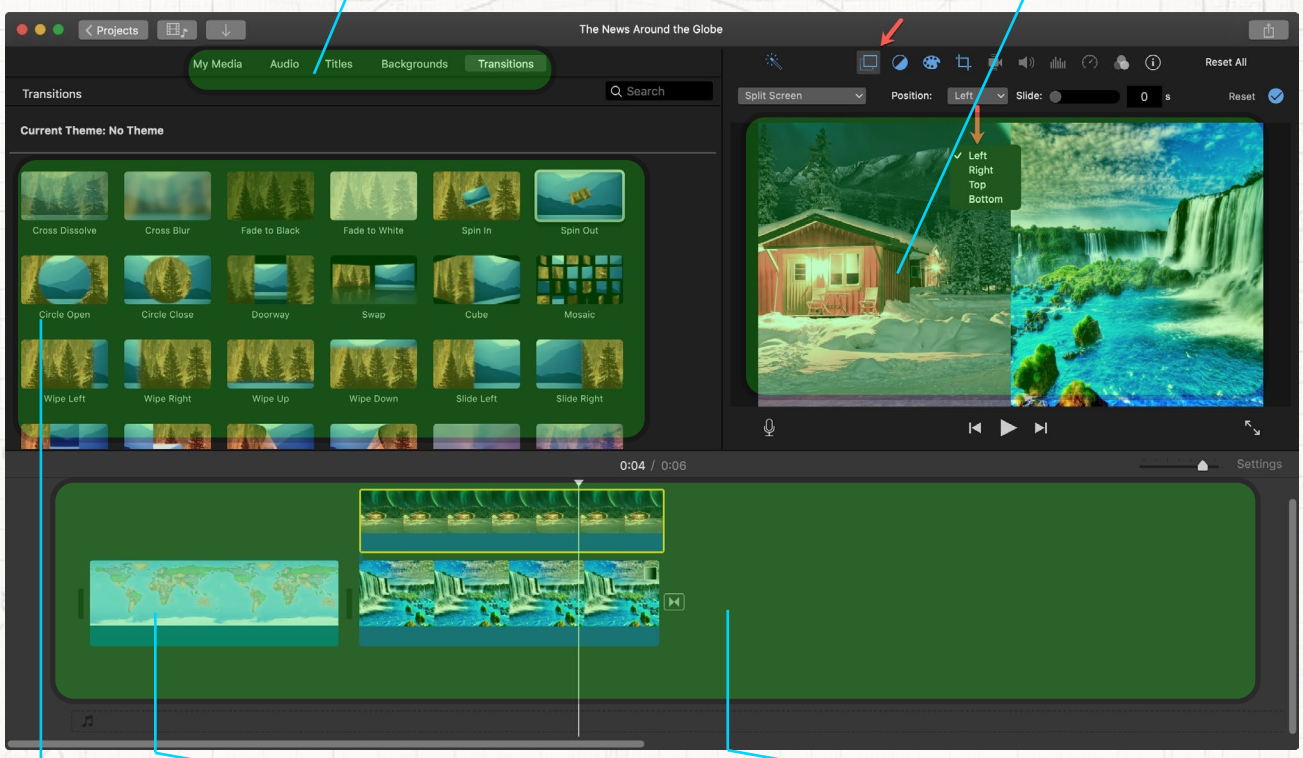
Click to Visit a UC Santa Cruz site that has a complete training set for the iMovie program.

As I understand it, I used to be that if you purchased a Mac, iMovie came with the computer. you didn't need to purchase it (or subscribe... grrr!). Maybe this contributes to Mac's being generally 40% more expensive then their PC counter parts. While some people are "Mac People" and they will go Mac because they have always used one and will pay whatever they need to pay because they literally can't operate a Window's based PC. I like the Mac computer. Nothing wrong with them, and they have the added bonus of being more safe from hacking and viruses due to their small market share. Hackers and software baddies want to incur the most havoc on the most amount of people. As such, they lean very much towards the PC / windows machines.

iMovie has been around for well over a decade, and while improving in clip and video processing, it hasn't lost its simple and easy to use interface. As you look at the layout, you might notice that there are some distinct similarities between iMovie and Premiere Elements.

iMovie Main Menu: Allows the editor to change functions from audio to backgrounds, to titles, to transitions. Note, that iMovie does pretty well with green screen matting just like

Project Monitor: Allows the editor to the project visual frames at the location of the scrub line. Where ever the scrub line is, that's what shows on the monitor.



Media Clip: These clips are dragged and dropped from the media window onto the timeline here. The length of the clip can be cut with the cutting too, or the editor can click on the ends of the clips and make it longer or shorter by dragging.

The Timeline: The place the clips are place, cut, and organized in a sequence that makes the final video before exporting. It's the "work space" for Camtasia projects.

Media: This window contains all of the imported media into the project. Every video clip, audio clip, every title plugin, you can drag and drop onto the play line to incorporate the clip into the video project. Just drag the clip from here to the timeline at the proper location. Now that media clip is part of the video.

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USING TIKTOK FOR VIDEO RECORDING

VIDEO

Tik Tok: Fast, furious, easy to upload

The Tik Tok video editor has it's place. The editor is fast and streamlined for putting content on the app fast. However, it blows shark chum when needing to edit anything sophisticated, with jump cuts, green screening, advanced titles, or anything professional. If you make it on Tik Tok, it will always look like it was shot on Tik Tok. That said, you can use the app's distinct look to demonstrate parts of your narrative that come from social me

Personal note: I found loading videos from this app difficult at times as my account seemed to not wish to accept the uploads from this app into my Tik Tok account. To this day I do not know what caused that problem.

CapCut is a free video app that you can use to edit your content. The flexibility and easy of use allows for a faster production timeline and is much easier to use than the basic editor that's included with the Tik Tok app. That said, there are several other apps you can use to produce short form videos.



CAPCUT

Platforms: Web, iOS, Android

CapCut, developed by ByteDance (the same company that owns TikTok), is an easy-to-use yet powerful TikTok editing app. Whether you're looking to add a splash of animated humor with stickers or dive deep into the world of magical effects that mesmerize viewers, it has you covered.

The intuitive interface of CapCut makes it a perfect choice for beginners and professionals alike. The drag-and-drop feature allows users to quickly move clips around the timeline and adjust speed or apply filters instantly. In addition, it provides detailed audio mixing tools as well as advanced color-grading options that give content creators precise control over their videos.

Top features: advanced filters, text animations, multi-layer timeline

Pros:
Intuitive and easy-to-use interface
Offers a variety of effects, filters, stickers, and transitions
Supports multiple audio tracks

Cons:
It might be limited for professional TikTok video editors
Some effects may come off as generic

Cost: Free / $7.99 per year



MOVAVI

Platforms: Mac / Windows

Offering an array of features for both beginners and pros, Movavi Video Editor is both versatile and intuitive. This TikTok video editor helps users learn how to edit TikTok videos and empowers them to create engaging, creative videos with just a few clicks.

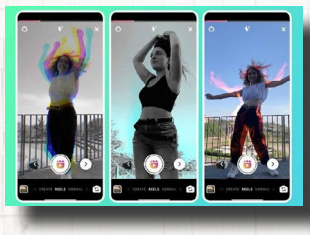
Movavi Video Editor provides a variety of options, from templates and animations to filters and transitions. It even has an auto-mated way to edit videos that picks the most interesting parts of your videos and transforms them into a compelling story. What's more, it supports all popular formats and allows you to upload content directly to TikTok.

Top features: AI background removal, video stabilization, keyframe animation

Pros:
Intuitive drag-and-drop interface
Extensive library of effects and transitions
Quick rendering speed with Fast HD Track

Cons:
Lacks some advanced features for professionals

Cost: Anywhere from $59.95 to $155.95/ year



PICSART

Platforms: Web / iOS / Android

Predominantly an image editor, Picsart also offers a range of tools for editing videos. Its video maker feature is perfect for creating engaging short-form videos.
You can trim and crop clips, add color-based filters, and include different objects like stickers and shapes. Its library of aesthetic titles, stock music, and animated transitions also make it a great choice for content creators to give their videos a unique touch.

Top features: text tool, music library, video animations

Pros:
Intuitive design
Ability to add text and music easily

Cons:
Limited video editing capabilities

Cost: Free / $24 a month

Click to a site that presents more Tik Tok video editing options.

Click icon to return to main menu page

VIDEO GENERATION: AI

VIDEO

VIDEO GENERATED BY AI - A PIXAR IN EVERYONE'S POCKET?

Yeah… not so much.

If you've been watching the adds that praise the incredible abilities of AI for making video. Admittedly, the VEO 2 release looks pretty darn good. Like… scary good. That's until I was tasked recently to make a video that really gave me no other option than to use AI generate most of the video for the Teaser trailer.

This is the video: Scan or click the QR code to see the trailer.

The video took 3.5 hours to compile and edit using Adobe Premiere

The teaser trailer was made for a pioneering VR company called Illuminate XR or IXR.

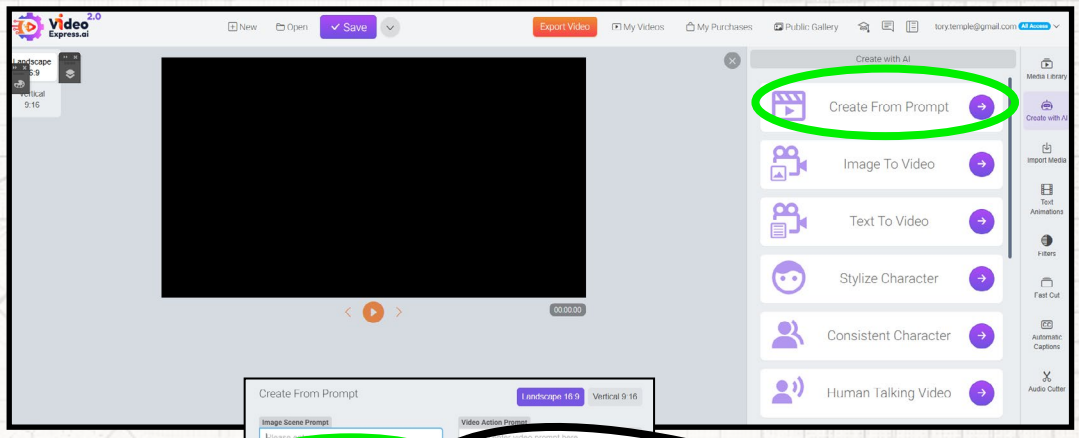


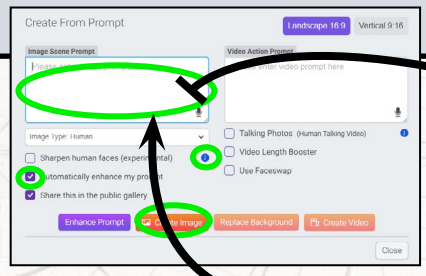
The video promotes something called an | "Intensive" which is a two week VR story-based experience designed to use a wide range of sensory exposure, cognitive dissonance, and good story telling to provide students with an option to the classic cut and slice of smelly frog slice-a-thons.

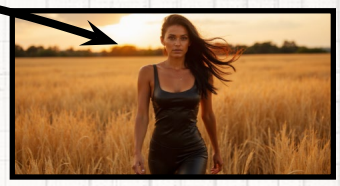
THE TOOL: A website based video tool called: "Video Express."

TO MAKE AN AI VIDEO: Circled to the right, we start from the CREATE FROM PROMPT option. This is also how you might make an image from a prompt, too.

Understand, unless your video is very simple, it can take up to 10 minutes to make your video.







[Prompt]: *A striking woman with flowing black hair strides confidently through a golden wheat field, her face illuminated by the warm, orange hues of the setting sun, a cinematic close-up capturing her determined expression as if she's an explorer from a distant, advanced civilization, her futuristic attire accentuating her sleek, attractive figure.*

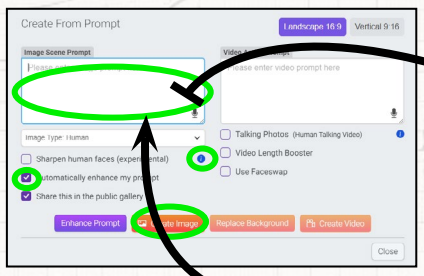
Part I: Describe a still image of the scene you want.
Note the green circles to the right. The larger one shows the prompt area and where you will put descriptive details about what is IN THE IMAGE, be Very specific,

Note the second smaller circle: That part will re-write the prompt to get a better idea for what Bora Bora was about.

Note that I selected CREATE IMAGE before video. I did that because I want to see what the AI is going to use as a reference image.

Part 2: Adjust the prompt
Maybe you really wanted more wind or the woman is far to skinny to have done the things she's to have done in your story. OK. Let's change the image prompt and try again. I used the exact prompt written on the right to see if I could correct body image and wind issues.

I like how she's walking towards the camera so I need to make sure that is also put in the prompt.





[Prompt]: *A visually striking lighter skinned woman with flowing black hair tries to cross a golden wheat field, her face illuminated by the warm, orange hues of the setting sun, a cinematic close-up capturing her healthy feminine body. She has a determined expression as if she's an explorer from a distant, advanced civilization, her futuristic attire accentuating her sleek, attractive figure. The wind is blowing at hurricane speeds,hair blowing wildly. She is walking towards the camera and her hair is being whipped to the right as the excessive winds whip her hair and force her to lose her balance.*

Part 3+: Adjust, Adjust, Start over, Adjust, then produce.
Truth be told… this is actually the 3rd revision not the second. This process of adjustment can take a long time. Occasionally you have to start over from scratch because the AI gets on a certain train of thought and won't give up until you begin again.

Eventually, you find the clip you want. CLICK the VIDEO LENGTH EXTENDER to get a clip up to 8 seconds long. For most video builders the time to generate video is about 3-5 minutes.

If you want to see the final version click the icon here: After three revisions, how much of what we wanted did we get in the final video?

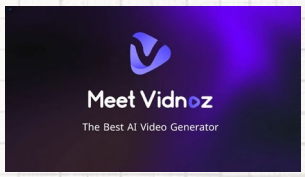
Click icon to return to main menu page

TALKING HEAD VIDEOS: AI

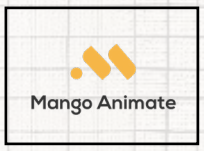
VIDEO

Here are several AI-powered platforms that allow you to animate a static image, making it appear as though the person in the photo is speaking.
These tools are either free or offer affordable options:

Vidnoz AI
Vidnoz offers a free AI talking photo generator that transforms still images into lifelike talking avatars. Users can upload a portrait, input text, and the tool will generate a video with synchronized lip movements and natural facial expressions.



Mango Animate
Mango Animate provides a free online tool to create AI talking photos. By uploading a front-facing portrait and entering text or audio, users can generate animated talking avatars in various languages and accents.



DupDub
DupDub offers an AI talking image generator that creates animated images and avatars. Users can upload a photo, input text, and the platform will produce a talking avatar video.



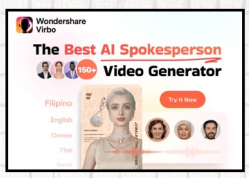
Vozo AI
Vozo AI enables users to create talking pictures by uploading a portrait image and adding text or audio. The tool generates a video with synchronized lip movements, making the image appear to speak.



Dreamface
Dreamface offers a free online tool to animate still photos into talking head videos. Users can upload an image, enter text, and generate a realistic narrative video with lip-sync effects.



Wondershare Virbo
Wondershare Virbo allows users to create AI talking photos online for free. By uploading a portrait image and inputting text or audio, the tool animates the static image with synchronized speech.



Synthesys.io
Synthesys provides a free AI talking photo generator that animates static images with human-like speech. Users can upload a photo, add a script, and create a talking photo with realistic lip-syncing.



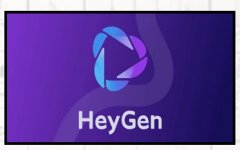
Remaker AI
Remaker AI offers an easy-to-use platform for creating talking photos. Users can upload a photo, input text, and the AI technology transforms the image into a talking avatar with customizable voice and language options.



Clipfly
Clipfly provides an online AI talking avatar creator that turns still portrait photos into realistic talking characters. Suitable for various scenarios such as business presentations and social media content.



HeyGen
HeyGen allows users to transform photos into talking avatars using AI. By uploading a portrait photo and entering a script, users can create engaging talking avatars for free.



CONSIDERATIONS:

Usage Policies: While these platforms offer free services, some may have limitations on usage or include watermarks in the output. Reviewing each platform's terms and conditions is recommended.

Privacy: Ensure that you have the right to use and animate any images you upload, especially if they contain recognizable individuals.

By utilizing these AI tools, you can create engaging and dynamic content by animating static images to speak, enhancing presentations, educational materials, or social media content.

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B-ROLL: PAID ENVIRONMENTAL VIDEO

VIDEO

Here are several platforms that offer free or low-cost b-roll footage, suitable for educators and content creators seeking alternatives to premium services like:

Storyblocks:
A wonderfully diverse site of images, videos, sounds, music and advanced Adobe motion titles and fancy title animations that can be used on Adobe After Effects. It's for advanced users for the most part... and... it's not very cheap @ $350/ yr.

Pexels
Provides a vast library of high-quality, free stock videos, including b-roll footage. All content is free to use without the need for attribution.

Videvo
Offers a comprehensive collection of free stock video footage and motion graphics. While many clips are free, some may require attribution under the Creative Commons 3.0 license.

Pixabay
Hosts over 1.8 million royalty-free stock videos and images. All content is available for free, with no attribution required, making it a valuable resource for educators.

Videezy
Provides a large selection of free HD and 4K stock videos. While many clips are free, some are labeled "Pro" and require purchase.

Mixkit
Offers free stock video clips, music, and sound effects. All assets are free for commercial and non-commercial use without the need for attribution.

Life of Vids
Provides free videos, clips, and loops with no copyright restrictions. Redistribution is limited to a maximum of 10 videos on other platforms.

Canva
While primarily known as a design tool, Canva offers a library of free stock videos that can be used within its platform for creating educational content.

U.S. Fish & Wildlife Service B-Roll
Offers b-roll footage of American landscapes, wildlife, and outdoor recreation. These videos are free to use with appropriate credit to the U.S. Fish & Wildlife Service.

Click icon to return to main menu page

AUDIO TOOLS: RECORDING (PC / MAC)

AUDIO

Here's a clear and simple narrative summary of the comparison between plug-in computer microphones and headset microphones, with emphasis on cost vs. performance and what each option is best suited for.

PLUG-IN COMPUTER MICROPHONES

Plug-in mics generally offer superior sound quality compared to headset mics, especially when recording voice for narration, podcasts, video content, or vocals. Even budget models can deliver clear, studio-like results.



Fifine K669B – $35
A fantastic budget USB condenser mic. Clean sound, sturdy build, and well above its price range in quality. A great starter mic for voiceover or podcast use.
Performance Rating: 7/10



Blue Snowball iCE – $50
Very popular entry-level mic, especially for streaming and content creation. Cardioid pickup pattern helps reduce background noise.
Performance Rating: 7.5/10



Samson Q2U – $70
Offers both USB and XLR connections, making it versatile for beginners and more advanced setups. Clear dynamic mic, good for speech and vocals.
Performance Rating: 8/10



Shure MV5 – $100
Compact and stylish with excellent voice clarity. Certified for Apple devices and great for those needing portability with quality.
Performance Rating: 8.5/10



Audio-Technica AT2020USB+ – $150
A step into semi-professional territory. It's a condenser mic with crisp, detailed sound—perfect for studio-quality voice recordings.
Performance Rating: 9/10

HEADSET MICROPHONES

Headset mics are built more for convenience and communication than for high-fidelity recording. They're great for Zoom calls, teaching, gaming, and situations where hands-free operation matters.



Logitech H390 – $25
Simple USB headset. Great for calls or meetings, but not recommended for high-quality voice recording.
Performance Rating: 5/10



Jabra Evolve 20 – $50
A business-oriented headset with noise cancellation. Decent clarity for virtual meetings, not ideal for content recording.
Performance Rating: 6/10



Corsair HS60 – $70
A gaming headset with a detachable mic. Audio is passable for casual content but still limited by headset constraints.
Performance Rating: 6.5/10



Beyerdynamic MMX 100 – $99
Better mic clarity and strong noise isolation. Suitable for gamers or educators who want more polish in their communication.
Performance Rating: 7.5/10



EPOS | Sennheiser GSP 600 – $150
A premium headset with excellent audio and solid mic quality. One of the few headset mics that approaches semi-pro sound territory.
Performance Rating: 8/10

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COMPUTER AUDIO RECORDING: AUDACITY

AUDIO

Beginner's Guide to Recording with Audacity (Windows PC) - One of the best bargans for the price of any media production tool available on the interet. Audacity has been around since the mid-2000s and has always been a go-to for high quality free recording tools.

What You'll Need:

A PC with Audacity installed (free from audacityteam.org)
A microphone (USB or 3.5mm) or USB audio interface for XLR mics
A pop filter (optional but helpful)
A script (Word, PDF, or plain text)

Connect and Set Up the Microphone - I*f USB mic: Plug mic into any USB port.*

Wait a few seconds—Windows should auto-install drivers.
If 3.5mm mic: Plug into the pink mic jack (or combo jack on laptop).
Go to Start --> Settings --> System --> Sound
Under Input, select your mic from the list.
Confirm Mic is Active: Right-click the sound icon in the taskbar --> Sounds --> Recording
Talk into the mic—you should see the meter bars move.

Bonus Tips:

Use headphones while recording to avoid feedback.

Save frequently while editing.

Don't worry about perfection—mistakes can be trimmed out later!

Open Audacity and Choose Your Mic

Open Audacity
At the top, look for the microphone dropdown (next to the mic icon).
Select your mic name from the list (e.g., "USB PnP Audio Device" or "Microphone (Realtek)").
Under Recording Channels, choose "Mono" (unless you're using a stereo mic).
Make sure the speaker icon dropdown also points to your headphones or speakers.

Set Input Levels (Recording Volume)

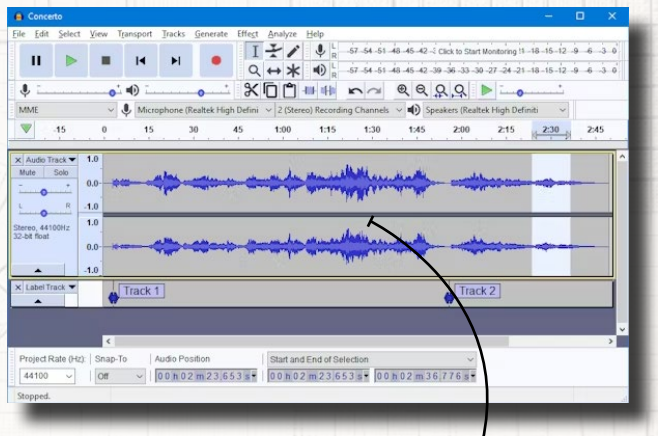
Speak into the mic normally.
Adjust the microphone slider until your voice reaches about halfway on the meter—avoid red area!
Goal: Peaks around -6 dB for clear, non-distorted audio.

Open and Display the Script

Option A: Use a Split-Screen View
Open the script in Notepad, Word, or PDF viewer.

Resize both Audacity and your script window side by side.

Option B: Use the "Label Track" for Prompts (Optional Advanced)
In Audacity: Tracks --> Add New --> Label Track
You can type phrases into the label track for visual reference.



The Audacity Work Area:
The timeline with the audio waveform on display. Highlight sections you want to delete.

Record Your Audio

Press the red Record button in Audacity.
Start reading your script clearly, stay 6–8 inches from mic.
Use the spacebar to pause/resume recording.

Press the brown square (Stop) when finished.

Review and Trim the Audio

Click the Selection Tool (the "I" icon)
Click and drag to highlight unwanted sections.
Press Delete to cut them.
Use Effect ⍰ Noise Reduction if needed (Audacity will guide you through it).

Save and Export Your File

To Save Your Project: File --> Save Project As --> Give it a name (saves as .aup3)

To Export Final Audio:

File --> Export --> Export as WAV or MP3
Choose a location and filename

Click icon to return to main menu page

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PLANNING: AUDIO RECORDING SET UP

AUDIO

"Your mic hears everything your brain ignores. The chair squeak, the neighbor's mower, your mouth noise. Prep isn't just technical—it's about awareness."

Recording audio can be an unforgiving process. Outside of deleting portions of the recording, editing audio is very difficult to fix if a plane flies over or neighbors start yelling at each other during your recording session. While you can't control the air traffic, you can control factors in your own environment

AUDIO EXPERT PREPARATION CHECKLIST:
Setting Up to Capture Clean Audio

Control the Recording Environment

Quiet the room: Turn off AC, fridges, computers—anything that hums.

Treat the space: Use blankets, foam panels, pillows—anything that reduces echo.

Watch the surfaces:
Hard walls = bad.
Soft materials = good.

Small space, dead sound is often ideal for voiceovers (think closet with clothes).

Check the Gear

Mic position: About 6–8 inches from the mouth, slightly off-center to avoid plosives.

Pop filter: Always. Stops "P" and "B" sounds from distorting.

Windscreen: Use if recording outside or on a budget instead of a pop filter.

Stable mount: Use a boom arm or mic stand to avoid handling noise.

Cables: Secure and check for hiss or static before recording.

Set Input Levels Carefully

Target range: Peaks at -6 dB, average around -12 dB.

Avoid "redlining"—once audio clips, it can't be fixed.

Use headphones to monitor live if possible—listen for room noise, mouth clicks, etc.

Choose the Right File Format & Settings

Record in WAV or AIFF for clearest voice quality and professional audio recordingm have have files that are 20x larger than mp3.

Use at least 44.1 kHz, 16-bit
(preferably 48 kHz, 24-bit if available).

Check your app's settings before you hit record.

Do a systems check recording to see if your settings are correct BEFORE you begin your actual recording.

VOICE ACTOR/PERFORMER PREPARATION:
Getting the Most Out of Recording Time

Warm Up the Voice

5–10 minutes of vocal exercises: lip trills, humming, tongue twisters.

Loosen up the face and jaw—yawn, stretch, shake it out.

Gentle humming helps bring warmth and resonance.

Hydrate: Start hydrating hours before—not during.

Avoid: Coffee, alcohol, or dairy beforehand (they dry or coat the throat).

Keep a water bottle and apple slices or green apple juice nearby—helps with mouth clicks.

Mark Up the Script

Know your lines, breath points, emphasis.

Highlight emotion, inflection, or pacing cues.

If you're narrating or acting, find the intent behind the words

Eliminate Interruptions

Silence the phone, alerts, and devices.

Let others in the space know you're recording.

Use "Do Not Disturb" or airplane mode if recording on a phone.

Mental Prep

Take a minute to calm the nervous system—breathe, stretch.

Get into the character or tone of the piece.

Focused, present, and expressive voice = gold.

Bonus Efficiency Tips

Record in short takes to minimize fatigue and editing.

Clap or snap between takes to mark them visually in waveforms.

Name files as you go if you're capturing multiple takes or segments.

Click icon to return to main menu page

THE iPHONE: FOR AUDIO RECORDING

AUDIO

WHY USE AN IPHONE FOR AUDIO?

The iPhone has:
Excellent internal audio processing
High signal-to-noise ratio
Portability and ease of use
A wide ecosystem of high-quality, plug-and-play mics

That said, the built-in mic is decent for casual voice memos, but ***external microphones*** significantly improve sound quality and control, especially in professional or semi-pro contexts.

Types of Microphones for iPhone Recording
Here's a breakdown of mic types you might use, why you'd choose each, and popular models that work well:

LAVALIER MICROPHONES (CLIP-ON MICS)

Best for: Interviews, YouTube, mobile journalism, voice-over

Why: Discreet, hands-free. Positioned close to the speaker's mouth = cleaner sound, less room noise



Examples:
Hollyland Lark M1 - Wireless Bluetooth 2-mic kit
Shure MVL – clean sound, similar style

How to Use:
Plug into Lightning port with adapter (if mic is TRRS).
Clip to shirt collar about 6–8 inches from mouth.
Open a recording app (Voice Memos, Ferrite, GarageBand, etc.)
Monitor levels if using an app that supports monitoring.

SHOTGUN MICROPHONES

Best for: Video interviews, field recording, directional pickup

Why: Focused pickup pattern (rejects background noise)
Ideal when you can't get close with a lav mic

Examples:
Rode VideoMic Me-L – plugs directly into iPhone Lightning por
Sennheiser MKE 600 Mobile Kit



How to Use:
Plug into the Lightning port.
Face mic directly at the speaker's mouth (aim matters).
Use a windscreen or deadcat outdoors.
Record in an app that supports external mics.
USB/Lightning Condenser Microphones

Best for: Podcasting, voice-overs, music, remote teaching

STEREO CONDENSER MICROPHONES

Why: High sensitivity and detail. Clean digital signal, bypasses iPhone preamp



Examples:
Shure MV88 – compact, stereo recording, app controlled
Blue Raspberry or Apogee MiC Plus – studio-quality

How to Use:
Plug directly into Lightning port.
Use app (e.g., Shure MOTIV for MV88) to adjust gain, polar pattern, etc.
Record in a quiet room to avoid picking up ambient noise.

XLR MICROPHONES (PRO-GRADE) VIA INTERFACE

Best for: Musicians, podcasters, studio-level work - *When you get really good at this sound recording business!*

Why: Superior sound quality and microphone variety
Control over gain and input levels

Examples of Interfaces:
iRig Pre 2 – connects XLR mics to iPhone
Zoom U-24 or Focusrite iTrack Solo

How to Use:
Connect XLR mic to the interface.
Connect interface to iPhone using Camera Connection Kit
Monitor audio with headphones through interface.
Set proper gain levels and record with professional apps.

Advanced Software and Tools:

If you are using a software interface be mindful of the waveforms and keep your input volume maxing out around mid range.

Avoid peaking (distortion from clipping when the sound levels "blow out" the mic can cause it to make a clicking sound.

Record in quieter spaces - use rooms that have lots of fabric on the floors - carpeted rooms work best for recording as carpets absorb soundwaves.

Try to have a foam pop sheild to reduce "p-puff" when someone who is close to the mic uses words with 'p' in it. That puff of sound and air can make unrecoverable sound errors on the recording.

Test Before Going Live

Always record a short test clip to check levels and mic position.

Final Tips for Students & organizing projects:
Label Your Files Clearly: Date + Project + Take #
Backup Immediately: iCloud, Google Drive, or local
Use a Mic Stand or Mount: Reduces handling noise
Don't Forget Airplane Mode: Prevents notification interruption

EDUNEERING: TECHNICAL GOLD

Sound tips... read, learn, don't learn this the hard way like I did.

Sound is SUPER hard to fix in post-production. Background sounds, weird humms, and things like dogs barking can all be avoided by thinking about your recording location before you start. Listen... are there dogs? Airplanes flying over? If you do have something interrupt, have a plan in place to stop recording back up and redo the recording. If you don't do it now, it's a nightmare, maybe even impossible to fix it later.

Click icon to return to main menu page

F *Free "Limited Access" Account Available*
P *Pay access only or to pay to get advanced features*
B *Best most powerful option paid of free*

VOICE CHANGER: APPS AND AI

AUDIO

F **Voicemod**
A real-time voice changer for Windows and macOS that offers a variety of voice effects, including celebrity voices. It's compatible with applications like Discord, Skype, and Zoom. A solid choice for creative work.
(Bought this one, and it has a wide variety of voice options. Not suggested to use with a headset mic, they tend to be far too sensitive with VM.)

F **Voice.ai**
A free real-time voice changer that allows users to modify their voice to sound like various celebrities. It's compatible with games and communication apps such as Discord, Skype, and Zoom.

F **FakeYou**
An online platform that enables users to generate speech in the voices of various celebrities. Simply type your text, select a celebrity voice, and generate the audio.

F P **HeyGen**
Text to speech in your voice in anyone elses voice. HeyGen also includes a video production tool which does a solid job making "talking head" videos at the touch of a button.

F P B **Parrot AI**
An AI celebrity voice generator that lets users create voiceovers using voices of celebrities like Donald Trump and Joe Biden. It's available as a free online tool and as a mobile app.

F P **Voice Changer with Effects**
A free Android app that allows users to record their voice, apply various effects, and share the modified recordings. It offers a range of voice effects for fun alterations.

F P **Voice Changer Plus**
A free iOS app that lets users change their voice in fun and amazing ways. Choose from dozens of voices and sound effects, record your voice, and apply the desired effect.

F P **Media.io Celebrity Voice Generator**
An online tool that enables users to generate celebrity voices for speaking or singing styles. It supports various AI voices mimicking voice actors and allows downloading the generated audio.

F P **FineShare FineVoice**
An online voice changer that allows users to transform their voice into over 1,000 realistic voices of characters and celebrities. It's user-friendly and operates directly from the browser.

F P **iMyFone MagicMic**
A free online voice changer that offers various AI voice models. Users can transform their voice recordings or audio files into different styles, including celebrity voices.

These tools provide a range of voice alteration features, from simple modifications to advanced AI-generated celebrity voice simulations. Please note that while these tools offer free versions, some may have limitations or offer additional features through paid plans. More importantly, it allows for ONE PERSON to do a LOT OF WORK and make it sound like dozens of people collaborated on your project without the ineffeciencies having to work aound other people's schedules.

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TEXT TO SPEECH AUDIO: AI

AUDIO

Presented below are some of the more notable speech to text AI driving voice generators. You can put, generaly speaking, upt to 5000 characters per rendering (about 500-600 words). Not all of the options have free versions, the really good ones require some payment.

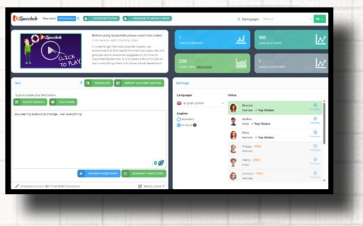
F *Free "Limited Access" Account Available*

P *Pay access only or to pay to get advanced features*

B *Best most powerful option paid of free*

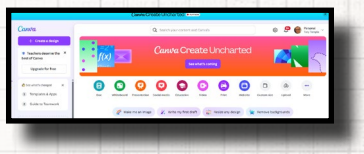
NaturalReader - aka speechlo.com
An online TTS platform offering realistic AI voices. Users can input text and download the generated speech as audio files. It's suitable for reading PDFs, books, documents, and web pages aloud.

F P



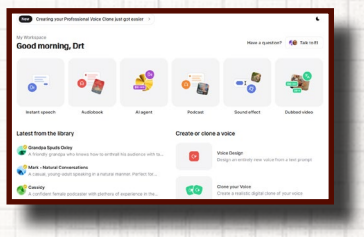
Canva's AI Voice Generator
Integrated within Canva, this tool allows users to convert text to speech, producing natural-sounding voiceovers for various content types, including ads, promotional videos, and podcasts.

F P



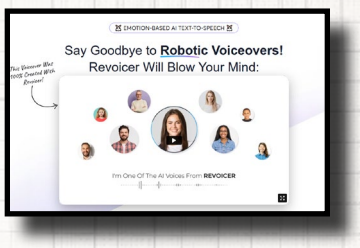
Narakeet
Provides an AI voice generator with over 800 voices across 100 languages. Users can quickly generate audio from text and download the files. It's particularly useful for creating voice-overs and audiobooks.

F P



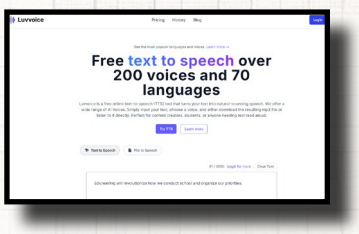
ElevenLabs
Offers high-quality speech generation in various voices, styles, and languages. The platform renders human-like intonation and inflections, adjusting delivery based on context.
**ElevenLabs provided the voice for "ARAH" The Eduneering Initiative's handy digital agent.*

F P B



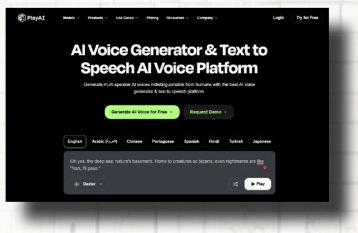
Revoicer.com
Offers high-quality speech generation in various voices, styles, and languages. The platform renders human-like intonation and inflections, adjusting delivery based on context. They claim some of the best emotional text-to-speech on the market.

F P



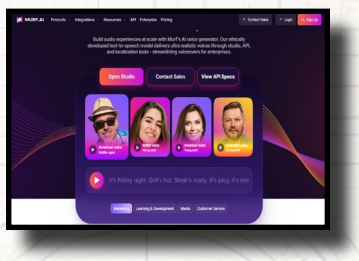
Luvvoice
A free online TTS tool that turns text into natural(ish)-sounding speech. It offers a wide range of AI voices and supports unlimited text conversion without word limits. Services if free up to 3000 characters.

F



Play.ht
Utilizes advanced TTS technology to convert written text into natural-sounding speech. It's suitable for creating voiceovers for videos, podcasts, and other multimedia content.

F P



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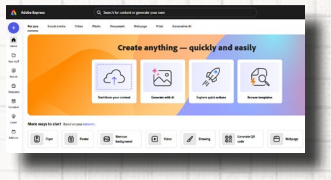
VISUAL ALTERATION: IMAGE EDITORS

IMAGES

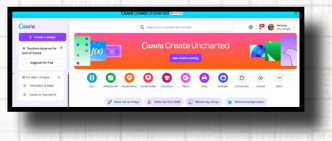
An Image editor is KEY for Eduneering. While Phtoshop is the king of image editors (and sometimes districts pay for Adobe products - check with your technology department for site licenses), there are other options that can be just as good with a tiny fraction of the cost. Several free image editing software options available for educators and general users, both as web-based applications and stand-alone programs.

Here are some notable ones:

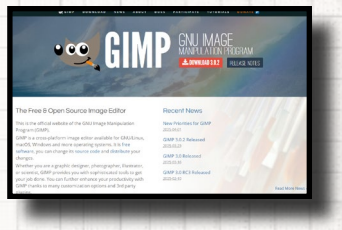
Adobe Express (adobe.com/education/express)
A free online photo editor that allows quick and easy photo enhancements, such as adding text, cropping, and resizing. It's particularly suitable for creating social media content and offers a user-friendly interface.
Adobe Creative Cloud



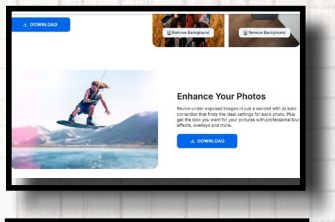
Canva (canva.com)
A versatile online design tool that includes a free photo editor. Users can edit, crop, enhance, and add effects or filters to images. Canva is widely used for creating presentations, social media graphics, and other visual content.



GIMP (GNU Image Manipulation Program)
A free and open-source cross-platform image editor available for GNU/Linux, macOS, and Windows. GIMP offers a wide range of tools for tasks such as photo retouching, image composition, and image authoring.



inPixio (inpixio.com)
A free online downloadable photo editor app powered by AI, offering a diverse range of photo editing and style tools. inPixio allows users to swiftly edit and enhance photos directly in the browser without the need for downloads.



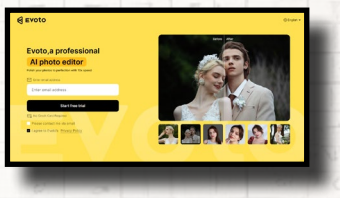
Photopea (photopea.com)
A free, web-based photo and graphics editor that supports various file formats, including PSD, XCF, and Sketch. Photopea offers a range of tools for image editing, making it a viable alternative to more complex software.



Sumo Paint (paint.sumo.app)
A free painting and drawing web application similar to Adobe Photoshop. Sumo Paint offers various tools and features for image editing and is
accessible directly through web browsers.



EVOTO (evoto.ai)
This photo design tool is much more procedural and good for very specific edits. This app really shines with it's tone and skin correction. Many of the processes are AI driven to produce results faster.



These tools provide a range of functionalities suitable for various image editing needs, from simple adjustments to more complex graphic design tasks.

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IMAGES GENERATED: AI GENERATED IMAGES

IF YOU WANT SOMETHING FROM AN AI, JUST ASK.

At this point you've very likely heard of prompt engineering. It's the skill that provides you the ability to ask generative AI programs for a specific outcome and then having it deliver something exactly like or very close to the information or image ideally imagines. I could have gone to expert books like, "The Ultimate Guide to Artificial Intelligence in Education" by Daniel Fitzpatrick. It provided a list of worth text-to-image generation tools like:

Midjourney	*Adobe Firefly*
Flex.1-dev	*Ideaogram.io*
Dall-E2	*Artbreeder*
*Thispersondoesntexist.org(wtf?)**	

For this I went right to the source and asked GPT 4o how it thought the best job of image prompt engineering should be done.

USE A STRUCTURED FORMAT (LIKE THIS):

[Subject], [Action], [Environment], [Style], [Mood], [Lighting], [Color], [Camera Angle].

Fill in the blanks with the details mentioned on the right and no matter what any book tells you, you'll generate the image you want... eventually!

A relatively new development (2025):
If you have one of the newer text-to-image builder, consider yourself lucky. Providing references images give the enginer something far more effective to workwith that mere words.

BEST PRACTICES FOR PROMPT ENGINEERING (IMAGE GENERATION)
ACCORDING TO CHATGPT 4O (MARCH 26, 2025)

Define the Subject with Precision:
Use clear nouns and specific descriptors.
Include: What the subject is (person, object, scene, etc.)
Include: What they are doing
Include: Their expression, pose, or action

Example:
A black cat with green eyes sitting on a red velvet cushion, gazing out a rainy window.

Include Style & Medium
Specify the desired art style or medium:
Oil painting, pencil sketch, cyberpunk digital art, 3D render, vintage photograph, Pixar-style animation, etc.

Example:
In the style of Studio Ghibli, soft pastel tones, hand-drawn feel.

Set the Composition and Framing:
Mention perspective and framing
Specify close-up, aerial view, isometric, wide-angle, side profile, over-the-shoulder. Include aspect ratio or image layout if necessary.

Example:
A wide-angle view of a medieval village from a hilltop, panoramic format.

Specify the Lighting
Lighting has a huge impact on image mood:
Soft morning light, dramatic shadows, neon lighting, golden hour, candlelight, spotlight from above.

Example:
A dancer on stage under a single spotlight in an otherwise dark theater.

Add Environmental or Background Context
Describe the background or setting:
Lush jungle, futuristic cityscape, snowy mountain range, dystopian ruins.

Example:
A young boy reading under a tree in a vibrant spring meadow, mountains in the distance.

Color Palette (Optional but Powerful)
Mention dominant or specific colors for consistency.
You can say: Muted earth tones, high contrast black and white, neon pink and teal, etc.

Mood or Emotion
Define the feeling the image should convey:
Serene, chaotic, joyful, mysterious, romantic, eerie

Example:
A mysterious masked figure in a foggy alley at night—ominous atmosphere.

Avoid Ambiguity with Negative Prompts
State what you don't want (if available in your tool):
No text, no distortion, no watermark, no extra limbs, not blurry. This is especially helpful when models produce unwanted artifacts.

**Thispersondoesntexist was a site taken from the AI Classroom Textbook and while skeptical, it does actually exist and makes face of people who do not.*

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IMAGE SEARCHES: GOOGLE IMAGES

IMAGES

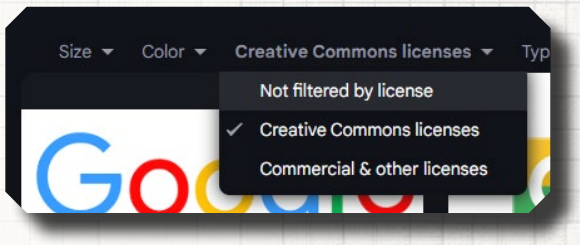
STEP-BY-STEP: FINDING ROYALTY-FREE IMAGES ON GOOGLE IMAGES FOR CLASSROOM USE

Step 1-Go to Google Images: Visit https://images.google.com

Step 2-Enter Your Search Term. Use specific keywords for what you're looking for (e.g., "solar system diagram", "photosynthesis chart", "ancient Egyptian pyramid").

Step 3-Click on "Tools" After results load, click "Tools" just under the search bar.

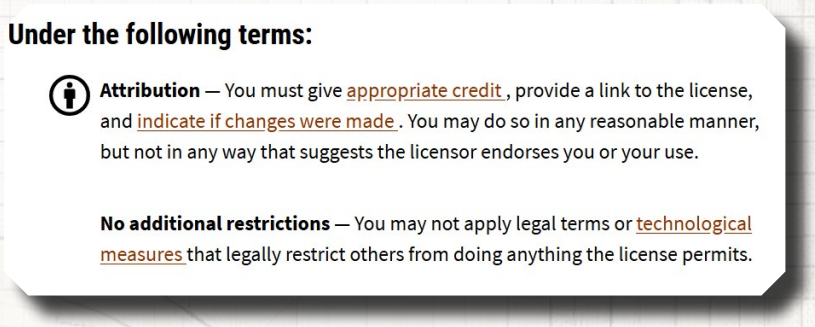
Step 4-Choose Usage Rights: A new menu will appear. Click on the drop-down menu next to "Usage rights". Then select "Creative Commons licenses". *This filters for royalty-free or reusable images.*



Step 5-Evaluate the Image Source: Click on the image to visit the original website. Look for clear licensing info, such as:

- Creative Commons License
- Public Domain
- Terms of use allowing educational use

Step 6 -Download and Cite (if required).
Download the image if it's reusable. Note the source and license, especially if attribution is required (Note: Only the author of the image can require this of an open source image.)



EXAMPLE: FINDING A ROYALTY-FREE DIAGRAM OF THE WATER CYCLE

Step 1: Go to images.google.com

Step 2: Type: "water cycle diagram"

Step 3: Click on Tools

Step 4: Set Usage Rights to Creative Commons licenses

Step 5: Choose an image (e.g., a labeled diagram from Wikimedia Commons). Click on it, visit the site, and verify it says:

"Licensed under Creative Commons Attribution-Share Alike 4.0 International"

Step 6: Download and Use. Save the image.
Add this caption under it in your project:
"Image source: Wikimedia Commons, licensed under CC BY-SA 4.0"

THE BOTTOM LINE ABOUT IMAGES AND COPYRIGHTED MATERIAL:

The bottom line is this: ***Money***. Isn't it always? I spent a year on a nation board for copyright, open source, and rights for using images and protected materials for learning. As it turns out, if you're using the protected material for an internal project that has (and this is the most important part) no intent on being sold for profit, you may use almost anything you want with out penalty. Copyright was designed to protect the IP (intellectual property) and that property's ability to generate income. If you're not generating income off of the sale of these materials, you can use them as you wish.

HOWEVER, should you want to sell your curriculum one day, then you'll need to do some scrubbing of that protected material or face consequences should the original copyright holder every discover its use within your work.

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OUR TARGET: 10 CREATIVE IDEATION IDEAS

JUST IN TIME SKILL TRAINING - EVERYTHING YOU NEED TO KNOW TO BEGIN YOUR EDUNEERING JOURNEY

One of, if not the most powerful stopping forces in the realm of educational innovation is possessing the technical know-how to bring ones instructional visions to reality. Teachers are a varitable fountain of ideas, themes, and narratives. That's not usually the issue stopping innovative forward progress. The technical ability to bring these visions to life requires a framework, planning skills, an understanding of the limits of your tools, and practice using them. Just in time training allows you to get the help you need at the exact moment you need it. The skills below should get you started building world-class Omnidoc media.

Click on the view icon next to the skill and the PDF will take you to that training. There is also a return button should you need to come back here.

NARRATIVE IDEATION TOOLS

- The Fundamentals of Narrative Building
- The Six Story Arcs
  - "Cinderella" - Rise / Fall / Rise
  - "Rags to Riches" - Rise
  - "Riches to Rags" - Fall
  - "Man in a Hole" - Fall / Rise
  - "Icarus' Pyramid" - Rise / Fall
  - "Oedipus" - Fall / Rise / Fall
- Storytelling Devices and Plot Tools

THEME GENERATION IDEAS

- Differences Between Theme & Story
- Making Narratives for Literature

WHY NARRATIVES MATTER

- Pre COVID:
  Efficacy vs. Expectancy
- Post COVID:
  Efficacy vs. Expectancy
- The "Road Sign" Video:
  What it is, why it's good

PROJECT EXAMPLES

- Boldly Going -1
  A Legend is Born
- Boldly Going -2
  Story building
- Boldly Going -3
  Story Arc Used
- Boldly Going -4
  Plot Devices Used
- Boldly Going -5
  Project Downloads & Project Development Advice
- Boldly Going -6
  Walk-through & Commentary of All 5 Days of the Unit

PROJECT MANAGEMENT OPTIONS

The fundamentals of project planning

- Example: *Planning with MS Word*
- Example: *Excel*
- Example: *Planning with Trello*
  (Free online)

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CREATIVITY: EXPECTANCY VS EFFICACY (PRE-COVID) IDEAS

Professional writers often use various techniques to develop narratives and storylines, including:

PRE COVID: EXPECTANCY VS EFFICACY

Student self-efficacy refers to a learner's belief in their own capability to successfully execute specific tasks or achieve academic goals. Coined by psychologist Albert Bandura, self-efficacy is rooted in the idea that students who believe they can succeed are more likely to exert effort, persevere through challenges, and rebound from setbacks. For example, a student with high self-efficacy in math believes that, with effort, they can solve complex problems—even if they don't yet know how. This belief shapes their willingness to engage deeply with the material and take academic risks.

In contrast, student expectancy, as outlined in expectancy-value theory (primarily through the work of Eccles and Wigfield), refers to a student's expectation that they will succeed at a task. This expectation is based more on past performance, perceived difficulty, and contextual factors than on internal belief in one's capability. In short, while self-efficacy answers the question "Can I do this?", expectancy answers "Will I do well if I try?".

From a student's point of view, having high self-efficacy feels like having a deep personal belief that effort leads to mastery. It empowers resilience and internal motivation. On the other hand, having high expectancy might be more predictive or logical—based on a track record of success or knowing that a task is within reach. For instance, a student may feel confident they will pass an upcoming history test because they've done well on similar ones before (high expectancy), but they might still doubt their ability to write a strong essay (low self-efficacy in writing).

Having Both vs. Only One

When a student possesses both high self-efficacy and high expectancy, they are likely to be highly motivated and engaged. They not only believe they can succeed but also expect that success is likely. This alignment creates powerful momentum: the student is willing to invest effort, persist through difficulty, and has reason to believe the effort will pay off.

However, it's possible to have one without the other. A student with high expectancy but low self-efficacy might expect to do well on a multiple-choice test because they've studied the material before, but still feel inadequate in general academic ability. This disconnect might lead to surface-level engagement or avoidance of deeper learning tasks, especially those requiring creativity or complex reasoning.

Conversely, a student with high self-efficacy but low expectancy might believe in their ability to learn a difficult concept (like calculus), but past failures or systemic barriers may lead them to expect poor outcomes regardless of effort. This could result in disengagement due to learned helplessness or frustration.

Which Matters More for Engagement?

According to research, self-efficacy tends to have a stronger and more consistent impact on student engagement than expectancy alone. Zimmerman (2000) and Bandura (1997) both argue that self-efficacy is a critical predictor of self-regulated learning, which includes goal-setting, strategic planning, and persistence—all hallmarks of engaged learners. Self-efficacy supports intrinsic motivation, meaning students are more likely to learn for the sake of learning rather than external rewards.

While expectancy is important, especially when paired with a high perceived value of the task, its predictive power on engagement is often mediated by self-efficacy. A student may expect success but still fail to engage if they don't believe their efforts matter or if they lack confidence in key skills.

In practical terms, fostering self-efficacy may have longer-lasting effects on student motivation and behavior. Teachers can promote this by providing mastery experiences, constructive feedback, and opportunities for autonomy. Expectancy, while useful for short-term goal framing, is often more fragile and contingent on external factors like test formats or prior grades.

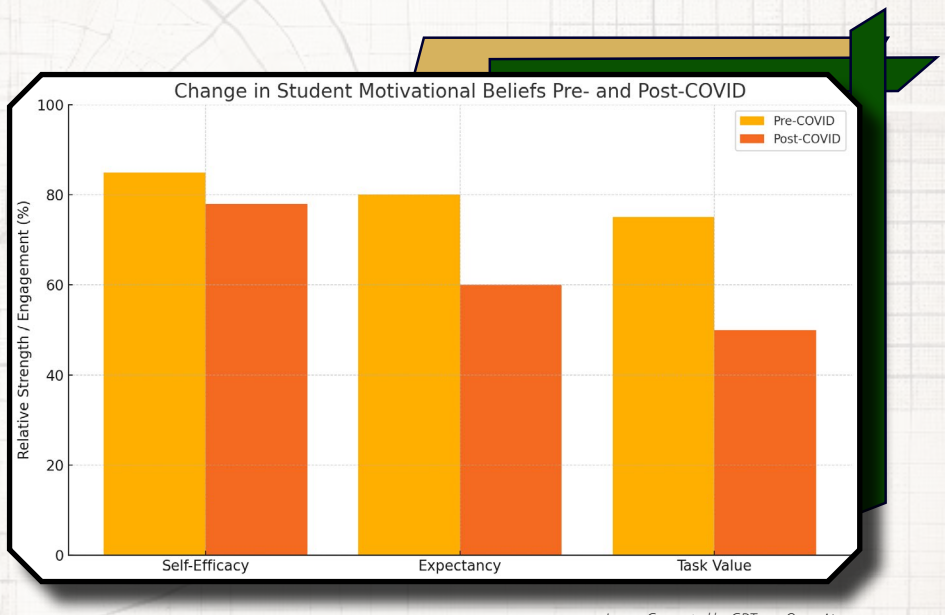


Image Generated by GPT 4.0, Open Ai.
Analysis of documents from a search of online documents noting drops in expectancy post-COVID. Authors names include: McKinsey (2022); EdTrust & Student Experience Network (2022); Rand Corporation (2021); Domnina, T., et al. (2021); Wigfield & Eccles (2022); Hullwmen & Barron (2022); Kuhfeld, Soland, & Tarasawa (2022); Martin (2021).

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CREATIVITY: EXPECTANCY VS EFFICACY (POST-COVID) IDEAS

Professional writers often use various techniques to develop narratives and storylines, including:

POST COVID: EXPECTANCY VS EFFICACY

Post-COVID research has revealed important shifts in both expectancy and self-efficacy, and how these shifts have influenced student engagement and decision-making. One of the most notable trends is the disconnect between ability and motivation. Many students who can do the work—those with sufficient skills and even past success—are opting out of effortful academic engagement at higher rates than before. Researchers suggest this is tied more to expectancy and value beliefs than to self-efficacy alone.

What the Research Shows Post-COVID

Self-Efficacy Remained More Stable Than Expectancy or Value Studies (e.g., Martin, 2021; Kuhfeld et al., 2022) indicate that many students retained a belief in their ability to complete academic tasks (self-efficacy), but their expectation of success and, more importantly, the value they placed on academic success declined. In other words, students knew they could do the work, but questioned why they should.

Increased Disengagement Due to Value Decline
Expectancy-value theory suggests that students are more likely to engage when they both expect to succeed and see the task as valuable. Post-COVID, a lot of students—particularly in middle and high school—began to disengage because school no longer felt relevant or meaningful. The pandemic disrupted routines, goals, social structures, and the perceived long-term rewards of academic work. What used to motivate students (e.g., college, future job security, teacher praise) often lost emotional impact during extended remote learning periods.

"Can Do" but "Won't Do" Students

A phenomenon emerged where students who were once high-performing or average performers began to opt out not because they lacked ability, but because they had developed apathy toward the work. Researchers describe this as a shift from "can't do" to "won't do." Some of it is burnout, but much is linked to a loss of perceived value, increased anxiety, and a reframing of priorities around well-being, social life, or work (especially among older students).

Changes in Goal Orientation

Achievement goal research (e.g., Hulleman & Barron, 2022) post-COVID notes a decline in mastery goals (learning for the sake of understanding) and a shift toward performance avoidance goals (avoiding failure or embarrassment). Many students became more passive and less willing to put in effort unless the task was seen as immediately meaningful or emotionally rewarding.

Erosion of Academic Identity

Remote learning also disrupted the development of academic identity. For students who previously relied on classroom affirmation to fuel their motivation, the absence of in-person feedback and the power of interpersonal support and encouragement weakened their sense of belonging or purpose in school. This further lowered expectancy and value, even when self-efficacy remained intact. This erosion was harder felt in low income or areas where the over-arching cultural priorities were not fixed on school. School was the place where learning was encouraged. When that went away, parental and cultural motivations took over.

Now, Post COVID, it's definately both

The research strongly suggests that expectancy and task value, not just self-efficacy, are now more critical than ever in driving student motivation. For educators and curriculum designers, this means students need more than confidence, they need a reason to care. Creating authentic learning experiences, providing choice, and restoring emotional relevance are key strategies for re-engaging students in the post-COVID educational landscape.

The takeaway

It is for this reason that the Eduneering project has become so relevant. Those indoctrinated by the traditional system insisting that it's still the best training path will scoff at the pedestrian nature of our solution. This idea is thousands of years old and deployed by the entertainment industry for decades. Perhaps it's the non-quantifiable nature of the assessment piece that has traditionalists pushing back on these ideas. The gravitas of a well told narrative is hardwired into the human condition, and why I suggest it's the current best path of action for this post-covid disengagement crisis.

The Expectancy vs. Efficacy Post-COVID Shift

Construct	Trend Post-COVID	Resulting Student Behavior
Self-Efficacy	Generally stable or only moderately impacted	Students still believe they can complete tasks
Expectancy	Declined, particularly regarding long-term success	Reduced effort, lower goal-setting
Value	Declined sharply for many	Task avoidance, opting out, increased apathy
Engagement	Dropped even among capable students	"Can do" but "won't do"—especially if task feels irrelevant

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CREATIVITY: BUILDING NARARIVES-FUNDAMENTALS IDEAS

So, why put all this effort into developing a narrative? It is a lot of work, but might be the only way to recapture students from their phones and their self-empowered "I don't want to do anything" atitudes.

CHARACTER DEVELOPMENT:

Compelling Motivations:
Give characters clear, relatable goals and desires that drive their actions and create conflict.

Character Arcs:
Design a journey for each character, showing their growth, flaws, and transformation throughout the story.

Internal Conflict:
Create internal struggles within characters to add depth and complexity.

Dialogue:
Use dialogue to reveal character personalities, relationships, and motivations.

Plot Structure:
Classic Narrative Arc: Follow a structure with exposition, rising action, climax, falling action, and resolution to provide a satisfying story arc.

Inciting Incident:
Introduce a significant event that sets the plot in motion.

Turning Points:
Include pivotal moments that shift the story's direction and raise tension.

Subplots:
Create interwoven storylines to add depth and complexity.

WORLD BUILDING:

Setting:
Develop a vivid and consistent setting that complements the story's tone and themes.

Backstory:
Establish the history and context of the world to add depth and realism.

Internal Logic:
Ensure the rules of the world are consistent and believable.

STORYTELLING TECHNIQUES:

Conflict:
Create significant challenges and obstacles for the characters to overcome.

Foreshadowing:
Hint at future events to build suspense and anticipation.

Flashback:
Use flashbacks to reveal important information about characters or the past.

Point of View:
Choose a narrative perspective (first-person, third-person limited, omniscient) to control the information revealed to the reader.

Theme:
Identify a central idea or message that the story explores and weaves it through the plot and characters.

PROCESS AND PLANNING:

Outlining:
Create a detailed outline to map out the story's major plot points, character arcs, and key events.

Brainstorming:
Generate ideas freely to explore different possibilities before committing to a specific plot.

Character Sketches:
Develop detailed profiles of each character, including their motivations, flaws, and backstory.

Revision and Editing:
Revise drafts to refine plot, character development, and pacing.

IMPORTANT CONSIDERATIONS:

Audience:
Understand your target audience and tailor the story to resonate with their interests and expectations.

Pacing:
Control the rhythm of the story by balancing action, exposition, and character development.

Show, Don't Tell:
Use descriptive language to immerse the reader in the story and create vivid imagery rather than simply stating facts.

Read Widely:
Immerse yourself in different genres and styles to learn from other writers and expand your creative horizons.

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CREATIVITY: "CINDERELLA" ARC

IDEAS

This arc centers on a protagonist who begins in lowly or disadvantaged circumstances and, through a combination of luck, skill, transformation, and perseverance, rises to success, wealth, status, or fulfillment.

"CINDERELLA" STORY ARC:

Rags – The protagonist starts poor, oppressed, undervalued, or invisible.

Opportunity Arises – A chance to change their fate appears (magical, circumstantial, or earned).

Struggles and Growth – The hero faces challenges, opposition, or self-doubt on the road upward.

Breakthrough – A significant turning point occurs (a revelation, victory, or help from an ally).

Riches – They reach a new, elevated state—whether material, emotional, social, or spiritual.

The "riches" can be literal (money, power) or metaphorical (respect, love, identity, self-worth).

Cinderella and the "Rags to Riches" arc are very similar but the main difference between this arc and the traditional Rags to Riches arc comes during a tragic turn to absolute loss before the protagonist suddenly achives their goals at the end.

Notable Examples:

Cinderella
Classic rags to riches: mistreated stepdaughter rises to become a princess. Magic enables the opportunity, but it's her character and kindness that seal the deal.

Harry Potter
Begins as an orphan living in a cupboard. Discovers his magical identity, trains through adversity, and becomes a legendary hero.\

Slumdog Millionaire
Jamal rises from the slums to win a game show, but the "riches" are reuniting with his love and reclaiming dignity—not just the money.

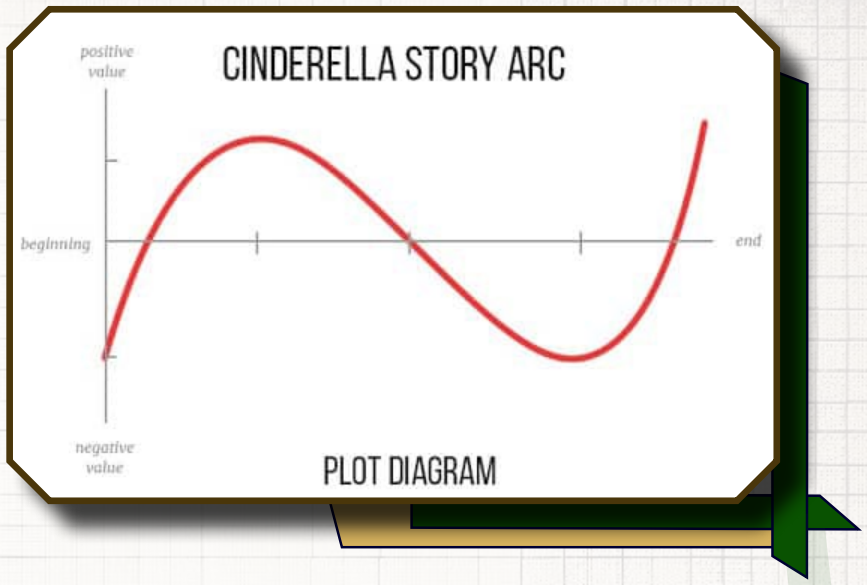
Rocky
From an unknown boxer to a national contender. Doesn't even win the final fight—his "riches" are in self-respect and proving his worth.

Billy Elliot
A working-class boy overcomes cultural and familial resistance to become a ballet dancer, achieving personal and professional liberation.



An AI produced image of a metaphor where Cinderella, walks from riches back to rags.

Image produced by Flex.1 [dev]
Prompt: Create an image that metaphorically represents the Cinderella leaving the ball at midnight.



Psychological Effectiveness of "Cinderella Story":

Cognitive Payoff:
Clear Upward Trajectory
The story is easy to follow and rewards emotional investment. As the hero climbs, we climb with them. The arc builds tension and releases it with an uplifting resolution—that's dopamine magic.

Cultural Significance:
The Meritocracy Myth & the Hero's Reward In Western societies especially, this arc ties into the idea of the self-made individual or the "American Dream." Many cultures also value justice and reward for the pure of heart, which shows up in fairy tales and religious texts. The arc reinforces ideals like hard work, virtue, and the belief that change is possible.

Psychological Resonance:
Hope and Aspiration we're drawn to stories of transcendence—the idea that we can become more than our circumstances. It mirrors personal ambition, especially for people who've felt overlooked or underestimated. Offers the dream of validation, which is a universal human desire.

Empowerment and Catharsis:
Seeing someone rise from nothing can trigger mirror neurons and generate feelings of empowerment. Especially effective for viewers/readers who have themselve experienced hardship, poverty, or marginalization.

Cultural aside: *The "Rise" Arc for women*
Cinderella is one of western culture's most prized feminine myths. "Be good, be beautiful, and you will be chosen." Here the idea of worth is inherent despite being hidden by object poverty. The take away: "Any girl can be a princess."

The reward: Love, validation, and transformation are not achieved through self-work or self-sacrifice, or self-anything. *Just be, and that's enough*. As mentioneed previously, this story arc is especially popular among those who are impoverished (from lack of money, resources, care, love, attention...) to hope that things might change without themselves having to take action, perhaps, because of percieved helplessness.

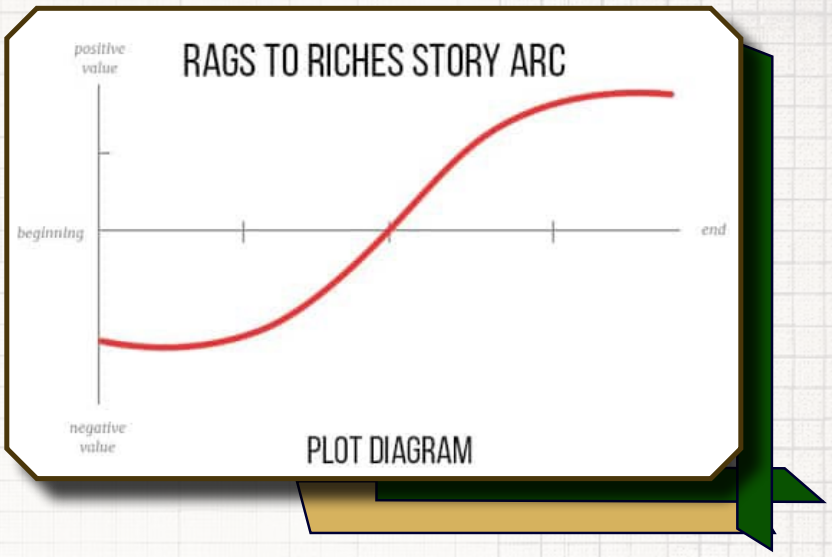
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CREATIVITY: "RAGS TO RICHES" ARC

IDEAS

This arc follows a classic upward trajectory, where a character begins in hardship, obscurity, or disadvantage, and through perseverance, transformation, or fortune, they ascend to a higher state materially, socially, emotionally, or spiritually.



THE "RAGS TO RICHES" STORY ARC:

Rags – The protagonist starts powerless, poor, undervalued, or alone.

Challenge/Opportunity – Something sparks change—a talent revealed, a mentor appears, or fate intervenes.

Struggle and Growth – They face trials, setbacks, and inner conflict as they pursue their goal.

Breakthrough – A moment of success, self-realization, or external recognition occurs.

Riches – They emerge in a position of empowerment—this may be wealth, love, status, or a deeper self-identity.

It's the embodiment of hope, possibility, and earned reward.

Notable Examples of the "Rags-to-Riches" arc:

Annie
An orphan girl with nothing wins the heart of a wealthy benefactor—her optimism and spirit win out over hardship.

Aladdin
Starts as a street rat; through bravery and some magical help, he earns the princess's love and his own self-worth.

Pursuit of Happyness (based on a true story)
Chris Gardner goes from homeless to successful stockbroker, never giving up on his son or his goals.

Slumdog Millionaire (fits here too)
His rise from poverty to game-show champion reflects inner resourcefulness rather than formal education.

Jane Eyre
Orphaned and mistreated, she grows into a morally strong woman who eventually finds love and independence.



The Slumdog Millionaire story using an actual dog drawn in the Pixar animation style.

Image produced by Dall-e, Open Ai
Prompt: Create an image that represents the "Rags to Riches" story arc done in Pixar animation style.

Psychological Effectiveness of "Rags to Riches" Story:

Cognitive Comfort: Rising Arc
This arc is easy for the brain to follow—predictable, but satisfying. Builds tension and then resolves it in a way that rewards emotional investment.

Cultural Significance: The Self-Made Myth
Especially strong in Western contexts: "pull yourself up by your bootstraps". Ties into capitalism, individualism, and moral meritocracy (the idea that good people succeed).
In other cultures, it might align with karma, spiritual testing, or the rewards of humility.

Neurological Reward: Dopamine and Empowerment
The upward curve activates positive emotions, reinforcing the idea that change is worth striving for.

Psychological Resonance: Hope and Transformation
Deeply taps into the human longing for change, justice, and possibility. We root for the underdog—their success feels like a victory for us too. It reflects our belief in inner potential waiting to be unlocked. Can be especially powerful for youth audiences, who are imagining their future identities.

Cultural Aside: *"Rags-to-Riches" the Masculine Myth*
Deeply engrained into the minde of the western-minded male is the phrase: "You are nothing unless you build yourself into something." At least in the western world, though this seems to be pretty consistent accross global male communities, men are taught no one is comeing to save them and your value is earned. You have no inhernet value. All of your value comes from what you can provide or what you know. Comedian Chris Rock once elaborated on this notion by stating,

"Only women, children, and dogs are loved unconditionally."

He's not the only person that believes this to be true. This is the lived experience of millions of men every day.

The reward: Recognition, autonomy, wealth, maybe love, BUT ONLY after you have proven yourself worthy. Failure to 'rise' is not just a fail, but a failure to achieve your value as a human being.

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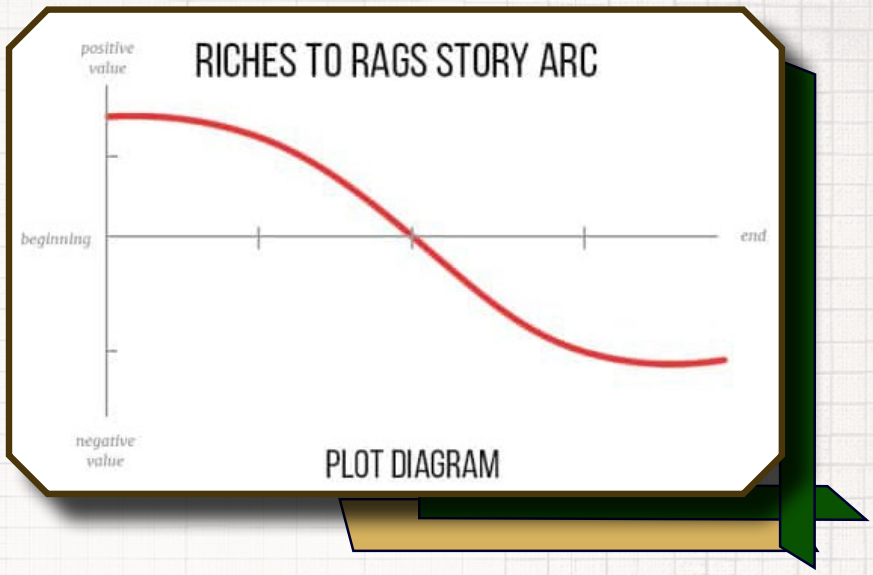
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CREATIVITY: "RICHES TO RAGS" ARC

IDEAS

"Riches to Rags" story arc—a less celebrated but emotionally powerful structure. This one flips the upward journey of "Rags to Riches" on its head, tracing a fall from greatness or comfort into loss, ruin, or obscurity.

This arc traces a decline in fortune, power, identity, or status—a steady or sudden collapse from a high place. Unlike Icarus, which focuses on hubris-fueled downfall, "Riches to Rags" can be more nuanced, sometimes even noble or bittersweet in tone. Also, known as the "Pride cometh before the fall" motief.



"RICHES-TO-RAGS" ARC GENERALLY FOLLOWS:

Riches – The protagonist starts with success, wealth, love, or status.

Instability or Tragedy – Something threatens or undermines that state (external conflict, betrayal, internal flaws).

Fall – The protagonist loses what they had—gradually or abruptly.

Adaptation or Defeat – They either learn to live without their former wealth/status or succumb to despair.

Aftermath – A moment of reflection, acceptance, or tragic finality.

Notable Examples:

Citizen Kane
Begins with the death of a once-mighty media tycoon. The film unravels how Kane gained everything—and lost it all in the pursuit of meaning.

Requiem for a Dream
Characters start with dreams of success, connection, and recognition. Their spirals into addiction, delusion, and degradation are harrowing and irreversible.

The Picture of Dorian Gray
Dorian starts with beauty, wealth, and social power. His descent into moral decay and eventual self-destruction is a psychological fall.

The Queen's Gambit (mid-arc)
Beth Harmon rises quickly in the chess world, but then hits a "riches to rags" low point via addiction and isolation—before climbing back up.

King Lear (Shakespeare)
A king who gives away his power and ends up mad and destitute. A haunting meditation on pride, age, and the consequences of misplaced trust.

Psychological Effectiveness of "Riches-to-Rags" Story:

Cognitive Complexity: *From Certainty to Chaos*
These stories subvert the brain's desire for neat progression. That disruption invites deeper thought. Riches-to-Rags arcs are often morally or emotionally ambiguous, forcing audiences to wrestle with complex outcomes.

Cultural Significance: *Warnings and Lessons*
These arcs often serve as moral or societal critiques—on excess, corruption, or complacency. In some cultures, especially those influenced by spiritual or ascetic traditions (Buddhism, Stoicism), the loss of material wealth is framed as growth.

Neurological Impact: T*ragedy and Reflection*
While uplifting arcs offer catharsis, Riches-to-Rags arcs often induce melancholic contemplation—which has its own psychological depth.

Psychological Resonance: *Fear of Loss*
We're wired not just to seek gain but to fear loss even more (loss aversion). Watching someone fall from grace triggers empathy, dread, and reflection—what if it were us? Some versions offer redemption through humility or wisdom, while others highlight irreversible collapse. The slow-motion collapse can create a suspenseful and deeply emotional experience.



A riches-to-rags story in a single image and drawn in the style of Disney's Hercules.

Image produced by Dall-e, Open Ai
Prompt: Create an image that represents the riches-to-rags, using a style very similar to Disney's Hercules.

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CREATIVITY: THE "MAN IN THE HOLE" ARC

IDEAS

The "Man in a Hole" story arc is one of the most enduring and psychologically resonant narrative structures, identified and popularized by Kurt Vonnegut in his lectures on the shapes of stories.

Here's a brief summary of the Man in a Hole story arc:

"MAN IN A HOLE" STORY ARC:

This story follows a simple and satisfying emotional trajectory:

The protagonist starts off in a good place (a state of normalcy or content.)

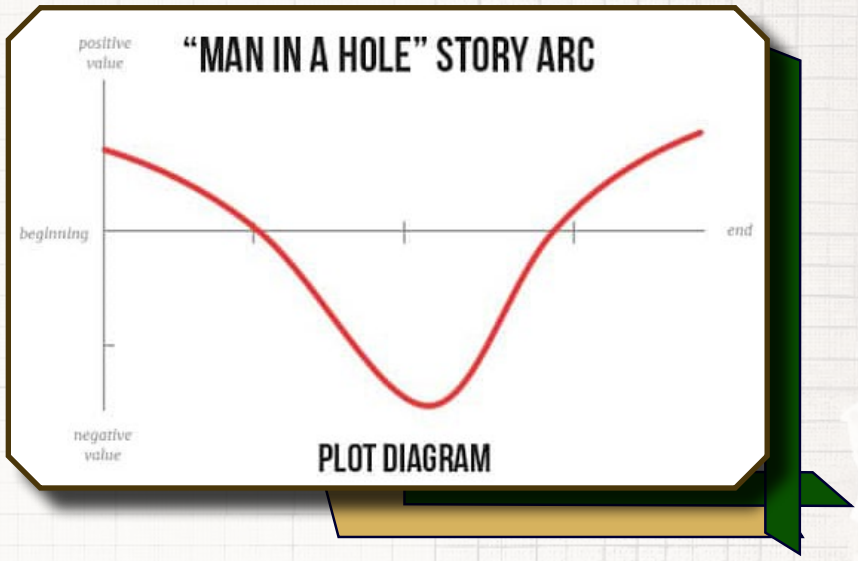
They fall into a hole—some form of trouble or adversity strikes.

They struggle within the hole, often undergoing a period of internal or external challenge.

They climb out—resolving the conflict or adapting to a new understanding.

They emerge changed, usually wiser or more resilient.

In essence, it's a descent into hardship followed by a rise, making it a classic "fall and rise" arc.



Psychylogical Effectiveness of "Man-in-a Hole":

Cognitive Structure: *Pattern Recognition*
The arc follows a predictable structure, which our brains love. It satisfies our need for narrative coherence. The descent and rise mimics the hero's journey without requiring mythic elements—it's accessible

Cultural Significance: *The Triumph of the Human Spirit*
Western storytelling often emphasizes individual struggle and perseverance. It reinforces cultural values like resilience, self-reliance, and moral growth. Many religious stories (Christian, Buddhist, etc.) follow this arc of fall and redemption.

Neurological Reward: *Emotional Payoff*
Stories that show characters overcoming adversity activate dopamine release in the brain, creating emotional satisfaction.

Psychological Resonance: *Redemption and Growth.*
The resolution phase brings a sense of closure, which calms the mind and body. We're wired to respond to redemption narratives. Seeing someone fall and rise again ***offers hope*** and ***relatability***. This mirrors how we experience real life: *Setbacks followed by recovery.*

Offers a cathartic experience: We feel emotionally purged through the protagonist's journey.

Notable examples of Man-in-a Hole story arcs:

The Odyssey by Homer
Odysseus starts as a hero, gets caught in a long and grueling journey home filled with setbacks (the "hole"), and eventually returns home changed and triumphant.

Finding Nemo
Marlin is in a stable life, loses his son (falls in a hole), faces numerous dangers and inner growth on his journey, and ultimately finds Nemo and himself in the process.

Cast Away
Tom Hanks' character has everything, then loses it all (plane crash), survives in isolation (the hole), and returns to civilization transformed by the experience.

Groundhog Day
The protagonist starts as a smug weatherman, gets stuck in a time loop (the hole), struggles and grows, and finally earns his release through personal transformation.

Most Romantic Comedies
A character is content, something upsets the status quo (a misunderstanding, heartbreak, etc.), and by the end, love is restored or redefined in a meaningful way.

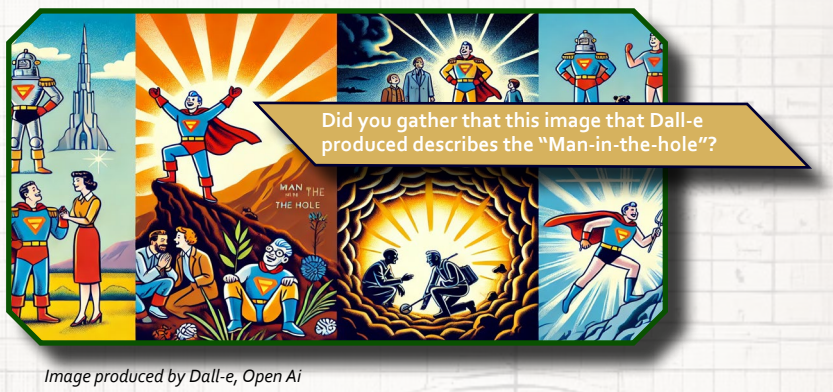


Image produced by Dall-e, Open Ai
Prompt: Create an image that represents the "Man in the hole" use the 1980's style "Super Friends" art style.

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CREATIVITY: "INCARUS PYRAMID" ARC

IDEAS

This is the plot structure Gustav Freytag was interested in when he coined the plot structure now known as Freytag's Pyramid (contrary to popular belief, Freytag's Pyramid is not a universal structure for plot, but a description of a single arc). For more on this literary concept (and how it's since been misunderstood), see our full Freytag's Pyramid guide here.

THE "ICARUS" STORY ARC DESIGN

Named after the Greek myth of Icarus, who flew too close to the sun with wax wings and fell to his death, this arc is about ambition, rise, overreach, and a fall. It's a rise-and-fall story—opposite of "Rags to Riches," and the dark mirror of "Man in the Hole."

The general break down for the "Icarus" storyt arc:

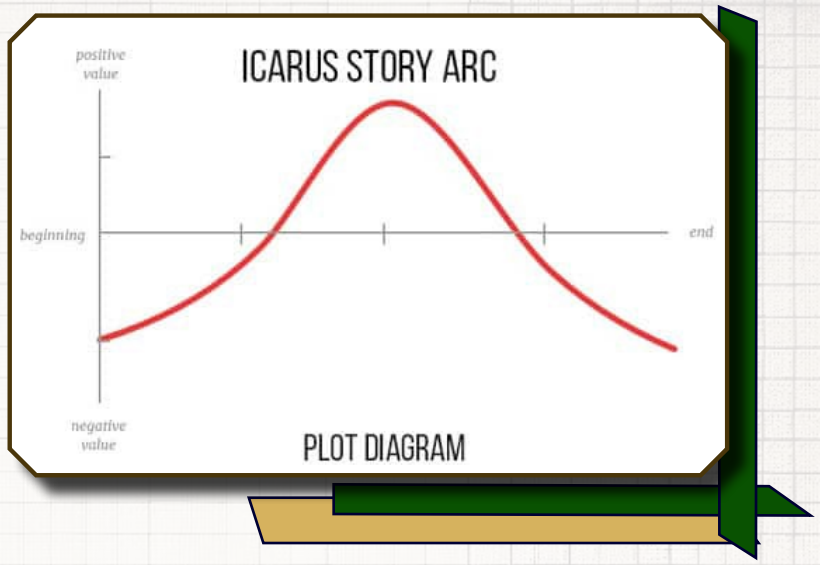
Humble beginnings – The protagonist starts out in an ordinary or low state.

Ascent – Through talent, power, or fortune, they rise toward greatness or glory.

Overreach – The character crosses a line—motivated by hubris, obsession, or ambition.

Catastrophic fall – The result is often tragic: downfall, loss, exile, or death.

Moral / Aftermath – The story ends with consequences (explicit or implied), and the audience reflects on the lesson.



Notable Examples

Macbeth (Shakespeare)
Rises in status after hearing a prophecy, succumbs to ambition, murders his way to power, and falls into madness and death.

The Great Gatsby
Gatsby rises from nothing in pursuit of a dream (Daisy, status), overreaches by trying to relive the past, and ultimately dies, disillusioned and alone.

Breaking Bad (Walter White)
A mild-mannered teacher becomes a drug kingpin. The rise is exhilarating, but his pride and control issues bring destruction to everyone he loves—and to himself.

Black Swan
Nina ascends toward perfection in her art, but the pressure and psychological fragmentation from her obsessive pursuit ultimately destroy her.

Frankenstein
Dr. Frankenstein reaches toward godlike knowledge, defies nature by creating life—and faces the horrifying consequences of playing god.

Psychological Effectiveness of "Icarus" Story Arc:

Cognitive Pattern: *Rise and Collapse*
There's a unique emotional dissonance in the arc: we're thrilled by the rise and devastated by the fall. It challenges our sense of justice: sometimes the fall feels deserved, other times heartbreakingly unfair.

Cultural Significance: *Hubris and the Fall*
In Greek tragedy and many religious traditions, hubris (excessive pride) leads to nemesis (divine retribution). Reflects cultural values around humility, limits, and moral boundaries. Especially powerful in postmodern and existential narratives that question unchecked progress and ego.

Neurological Impact: *Thrill and Grief*
The arc delivers a high (the rise) and then a deep emotional crash—a powerful storytelling combo.

Psychological Resonance: *Fear of Overreaching*
It taps into our ambivalence toward ambition—we admire the rise but fear the fall. Reflects a deep-seated anxiety about losing control, going too far, or becoming consumed by ego.

This arc offers cautionary wisdom about limits, especially those tied to power, identity, and self-worth.Stimulates a reflective emotional state: "What would you have done?", leading to deeper engagement.


Imagine an episode of "Rug Rats" retelling the story of Icarus and how he singed his wings.

Image produced by Dall-e, Open Ai
Prompt: Create a representative image of the story of Icarus using the art style of the "Rug Rats" TV cartoon series.

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CREATIVITY: "OEDIPUS" ARC

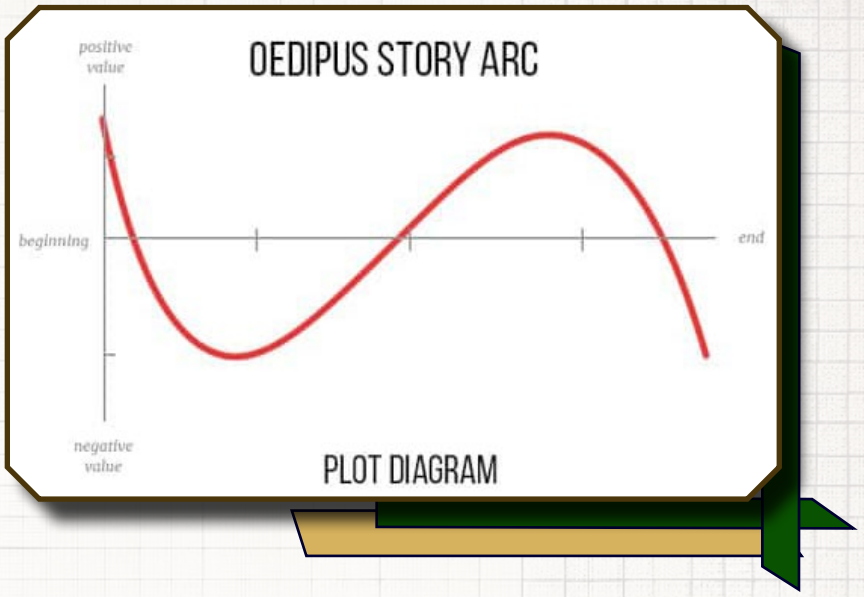
IDEAS

THE "OEDIPUS" STORY ARC

The Oedipus arc is not about simple rise or fall—it's about existential collapse through the pursuit of truth. It taps into our deepest fears about identity, fate, and the hidden forces shaping our lives. Whether in ancient tragedy or modern psychological thrillers, this arc endures because it reflects the ultimate human question:

What if the thing I most want to know is the thing that will destroy me?

The Oedipus story arc, one of the most psychologically rich and archetypally profound narratives in human history. This one's a complex hybrid, blending "Riches to Rags", "Icarus", and elements of "Man in the Hole", but with a uniquely tragic twist that gives it its own identity.



"Oedipus" Story Arc Progression:

The "Oedipus arc" is a Tragic Self-Discovery arc. It's defined not just by external rise and fall, but by an internal revelation so devastating that the character's sense of identity—and sometimes reality itself—is shattered.

High Status / Promise – The protagonist starts in a noble or heroic position (often unknowingly destined for downfall).

Quest / Investigation – They pursue truth, justice, or meaning—often trying to solve a problem or fulfill a prophecy.

Revelation / Reversal – The truth is uncovered, and it's devastating. The hero learns something about themselves that recontextualizes everything.

Collapse / Punishment – The fallout from the revelation brings about a moral, social, or existential ruin.

Aftermath / Catharsis – The story ends in tragic clarity, not triumph—inviting the audience to process pity, fear, and self-reflection.

NOTABLE EXAMPLES:

Oedipus Rex (Sophocles)
Oedipus begins as a king and savior of Thebes. In his pursuit of the truth, he learns he killed his father and married his mother—fulfilling the prophecy he tried to avoid. He blinds himself and enters exile.

Oldboy (2003)
In this Korean psychological thriller, the protagonist investigates his imprisonment and uncovers a devastating truth about his own actions—echoing the Oedipal arc both symbolically and literally.

The Sixth Sense
Dr. Malcolm Crowe helps a boy who sees dead people—only to realize he himself is dead. The shock reshapes the meaning of the entire narrative.

Black Mirror episodes
Many episodes follow a tech protagonist who seeks control or answers, only to discover they are the villain, the victim, or something in between—classic modern Oedipal arcs.

Psychological Effectiveness of "Oedipus" Story Arc:

Cognitive Twist: Retrospective Revelation
These stories often employ a narrative reversal where everything is reinterpreted in light of new information. The audience undergoes a mental restructuring at the same time as the character—intensifying the emotional payoff.

Cultural Significance: Tragedy as Moral and Existential Inquiry
In ancient Greece, tragedy wasn't about pessimism—it was about clarity: recognizing the truth of human limitation. These arcs explore taboos, moral ambiguity, and the danger of unchecked pursuit of knowledge—making them timeless.

Neurological Response: Dread, Shock, and Catharsis
The shock of revelation triggers high emotional and neural activation. The emotional release at the end of the arc creates catharsis—a purging of intense emotions like guilt, fear, and shame.

Psychological Resonance: Identity, Fate, and the Unknown Self.
At its core, the Oedipus arc is about the terrifying idea that we are not who we think we are. It confronts themes of fate vs. free will, the limits of human understanding, and the cost of truth. Jung saw Oedipus as symbolic of the shadow self—the hidden, repressed parts of us that, when exposed, destroy our illusions.



Image produced by Dall-e, Open Ai
Prompt: Create an image that iconically represents Oedipus but done using an anime art style, perhaps something resembling Dragon Ball Z

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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING [1]

IDEAS

BECAUSE OVER KILL IS HIGHLY UNDERRATED

In 2003, Boldly Going won the Subaru National Science Teaching Award for Science and Technology Integration. A great honor, bistowed on a great project.

A little back story:
The project was born out of two PCAs, 1) The prior instructional area lacked engagement, was passive, and worked for maybe 1 day, but taking notes for 4 days strait is not something even the best prepared middle school students are fans of doing. 2) I was bord with how it was being done. My enthusasm wained as the discipline issues grew because students were tired of the steel stools and spent on taking notes.

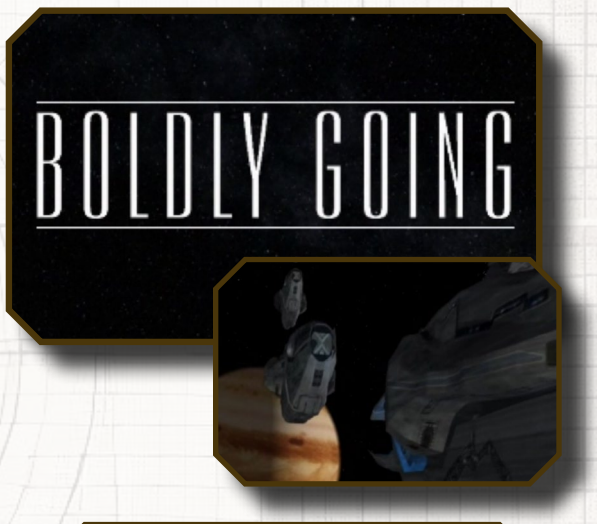
After some introspection, and a couple of old "Star Blazers" animae shows I was watching off of DVD, it hit me. I had always wanted to be the Captain of a starship, so why not? The Boldly Going idea became my captsone project for my Masters Degree in educational technology (always try to kill two birds if possible). So that while I spend months on end building media and taking video recordings, I was also preparing my masters project for completion.

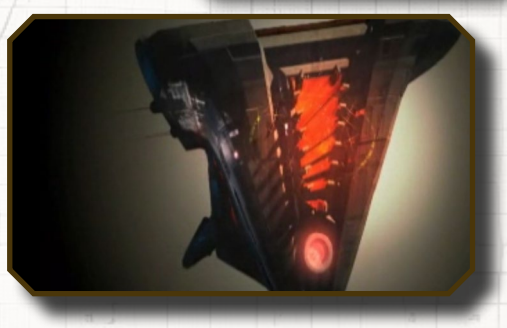
The first year of implementation was in 2002 and it was a controlled mess. I covered all of the walls with black paper, I built in remove control lighting so I could turn on the claxions and cabin lighting through a box I personally hardwired. The entire program was built into PowerPoint and at the time, it was NOT ready for this level of media onslaught and it crashed a lot forcing computer restarts at least once a class period. Frustrating!

But not so Frustrating that the students didn't recall the experience as one of the most meaningfull learning experiences of their entire middle school career.
Despite the technical issues, I could see how this theatrical immersion could change engagement levels... forever.



"Star Blazers" was the American Release of the Japanese anime "Space Battleship Yamoto" 1979 - 1984, 77 Episodes. (L. Matsumoto).





The "Double Man in the Hole"
Mission Backstory: *(and yes, there was a backstory, but it really wasn't produced and flushed out until the third year of the project).* The story centers around not a person as a main character so much as a ship. The USS RENEGADE was a mothballed superweapon that brought an end to the Alderan conflict, a multiyear war that started over trade route incurions by the Alderans. The USS RENEGADE was a dreadnaught class super-cruiser based on the the design of the YAMATO from the Japanese Anime "Star Blazers;" a ship built around an unimagionably powerful energy weapon~ (though in school we called it a "defensive asset").

The RENEGADE was inservice for a single day. One day. That's all it took for the "Wave Motion Device" to whipe out the Alderan Flagship, and 4/5 of their invastion fleet. They presented a full surrender, under the promise that the USS RENEGADE was mothballed and taken off line. This massive weapon sat in the Mars Shipyard, more museum for top secret technology than tool for system-wide peace.

The Briefing:
(25 years post Alderan Surrender).

The students enter the room as the crew for a ship they no nothing about. Adm. Shaegard, begins the briefing to the Capt. (The Teacher) and to the bridge crew (the students). In short, he notes that there is something of unimaginable destructive force heading this way towards Earth.

The USS RENEGADE was chose to be the test vessle for a new type of propulsion called the "Quantum Drive" (17 years before *The Orville*). The engine was massive and only the Renegade was large enough to withstand the stress the engine creates when making quantum tunnels to travel through. The crew is briefed on the ship and then set to disengage Earth orbit and leap out 10 light years to investigate the last M-class planet to be destroyed... and not explode while testing the Q-Drive.

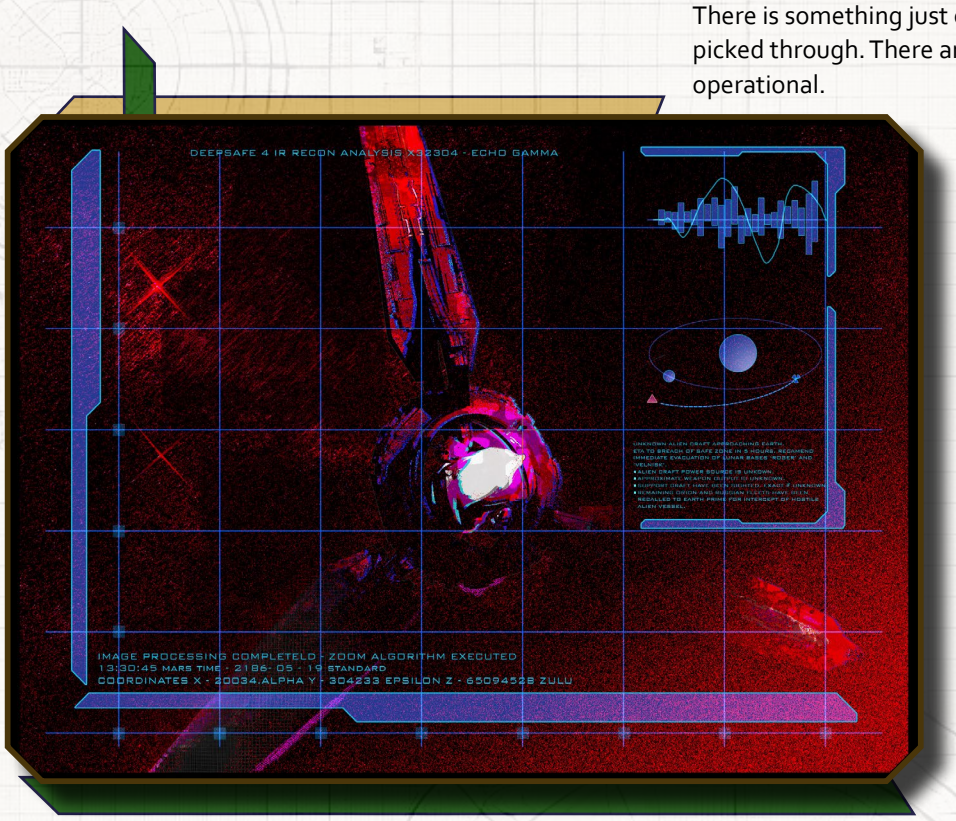


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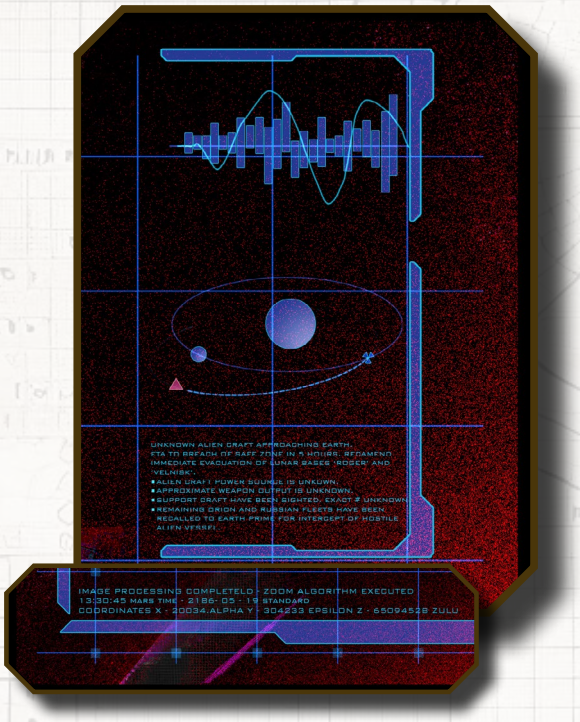
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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING ²

IDEAS



Images researched, imagined & produced by Nate Temple, 2006.



Well, we didn't vaporize in hyperspace, but…
There is something just off our bow. A ship. It's been completely destroyed and picked through. There are no life signs, but ship systems appear to be operational.

An unexpected turn provides datat that the bridge crew analyzes. The all come to the conclusion that after studying the obliterated planets, every single one, had the same physical properties as Earth. It's confirmed. This planet destroying monster is killing M-Class planets. For energy? For Pleasure? No one was sure at this point, but what we do know is that Earth fits the Profile perfectly.

Just then an unidentified probe rips through the RENEGADE's networks looking through navigational star charts. Despite trying to lock it out. We find the files accessed were navigational charts leading back to Earth.

Our successful mission just turned into a catastrophic failure in the blink of an eye. It appears whatever was destroying these planets now had the navigational data to lead them straight back to Earth.

Despirately, we try too set back to Earth to follow this probe, maybe we can get there first and head it off. But, it's advanced alien technology not only got there first but ripped up an entire space orbital defence platform and many many ships, with the loss of many many lives. Then the probe vanished. Adm. Shaegard considers the situation, the Renegade system hack, the system intrusion, and concludes that the probe was testing the navigational data to verify the M-class planet, and to test our defenses.

> Adm Shaegard: *"It is clear to me now the our worst fears may be confirmed. That probe confirmed our presence and that planet smashing alien incursion is very likely heading this way as we speak. However, the probe's drive to find navigational data also lead it right past the schematics of the Wave Motion Device. However, it remains a relic of an old war without the 5 core firing elements it needs use the Wave Motion Device. Capt, your and your crew are now tasked with what is pehaps the most importation mission the world has ever put on the shoulders of any Captain and any Crew. Once again, we put our fate on the broad shouders of the Renegade to save the Earth… one more time.*
>
> *In your briefing tomorrow your Head of Engineering will present to you the highly classified list of firing elements. Your task will be to find them, assemble the Wave Motion Device and deploy it to save the whole of humanity. Good luck, Shaegard out."*

This ends day one and sets the tone and the learning mechanism for the narrative over the next 4 days. Each clue presented leads to a particular planet and because the clues are all data-accurate descriptions of the planet the next clue is located. The students are provided a "Planetary Database" (also made as a non-linear PowerPoint) for students to study and cross reference clue data with planetary data. Lots of discussion and critical thinking takes place as students present planetary options based on their group analysis of the clues.

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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING [3]

IDEAS

WHICH STORY ARC WAS BOLDLY GOING?

The Story Arc aka Narrative Pathway used for BG:

"Double Man in a Hole"

In Boldly Going, the story begins with the possibility of a distant threat, not a big deal, the more immediate concern is the Quantam Drive.
Successful test and a discovery! **(High)**

The discovery leads us to learn some bad news. Moreover, we may have lead the terrible destroyer thing right back to Earth if we can't stop the probe. **(Fall)**

Proble destroys much of the international system defences - we are no match for even the Alien probe let alone the mothership. - **(Low)**

The probe doesn't know about the Wave Motion Device, we can try to get it to work again by searching the solar system for the 5 main system pieces. **(Rise)**

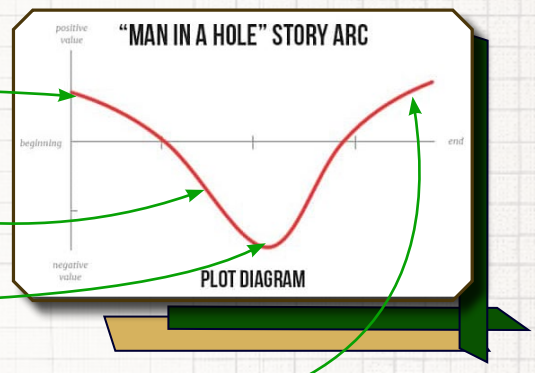
We find the first 4 pieces and the Destroyer hasn't made it to Earth yet.
(Rise - High)

We find out that the 5th peice is nearly impossible to find and the one place that may possibly have had it was been blown out of the sky by the probe. **(Fall)**

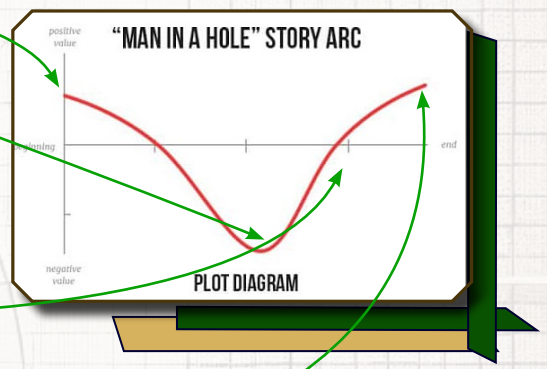
RENEGADE retreats to a location coded that was coded to the Capt. by his close friend Notorious pirate smuggler, Davin Caracus. in a last ditch effort, Davin Attepts to locate Hexatridium. RENEGADE powers for Self-Destruct in that maybe the Quantum Drive can generate a wormhold and suck us and the Destroyer into another dimension. **(Rise)**

Massive battle ensues as RENEGADE comes up to the Destroyer's position over Earth. Just as the Destroyer is in ready position and begins to pull power to it's planet destroying weapon. Davin Caracus arrives with the Hexitridium... enough for one... just one single shot. **(High)**

PHASE 1



PHASE 2



A VERY PROFITABLE WAY OF TELLING STORIES WITH "MAN-IN-A-HOLE"

MARVEL Cinematic Universe example of "Man in a hole" story structure to makeillions in revenue. The list below is a small sample of the movies that use the "Man-in-a-hole" narrative pathway. *Only used the older Marvel movies; they were good back then.*

1) **Thor** - Is awesome, gets banished, learns lessons, gets powers back, saves Odin and family, wins.
2) **Ironman** - Is awesome, gets bombed by own weapons, learns lessons, escapes, builds tech, does good, wins.
3) **Dr. Strange** - Is awesome, crashes lambo & breaks hands, leanrs magic, does good, wins
4) **Capt. America** - Becomes awesome, relegated to a showgirl, exiled as showgirl, does impossible mission, forms team, wins.
5) **Black Panther** - Is awesome, generational problem takes thrown, yells at dead kings, learns lessons, revives, fights, wins.

Other notable movies that have made a "Gajillion" dollars off of this particular narrative path:

1) **Top Gun** - Mavrick is awesome, RIO Dies, learns lessons, gets "the edge" back , saves Iceman, wins.
2) **Top Gun: Mavrick -** Is still awesome, pushes too far, reassigned, can't train new pilots, learns lessons, leads mission, wins
3) **Days of Thunder** - (otherwise Known as "Top Car") Is awesome, crashes car, looses faith, learns lessons, wins Daytona 500.
4) **Jerry Maguire** - Is awesome sports agent, crisis of concious, looses everything, learns teamwork, bromance works out, win.

As you can see, this is a Tom Cruise special. The narrative path should be called, "Tom-in-a-hole".

Animated movies also use this narrative theme. Some examples:

1) **Shrek -** Is awesome ogre, cast out of home, learns teamwork, finds love, weaponizes dragons, wins.
2) **Dragonball Z** - Goku is awesome, super bad guys almost kill him, learns lessons, trains, transforms, wins.

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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING [4]

IDEAS

ICONIC TALE-TELLING ELEMENTS THAT MOVE THE STORY ALONG

As a matter of example, the Boldy Going Science "Unit" did follow many of the story elements that make stories interesting and fun. Note that not all of them were used. Narrative building in teaching is about knowing the balance between too much story and not enough instruction.

Story Movement Elements Used in Boldly Going (Solar System Science Unit):

Compelling Motivations: The Crew of the USS Renegade was brought together to investigate a potential Earth-threatening situation.



Character arc: In this case, there could be two main characters. The first being that which the teacher plays - the Captain as he takes his new crew into the unknown confident of his abilities, he soon realized he's been out-matched and needs help.

The second might be the students development in their knowledge acquisition. The came in knowing very little about the inter-relationships of planets and their relative sizes, masses, and compositions.



Internal conflict: (Day 5) the Captain has to break his promise to keep the crew safe and orders a self-destruct sequence. *(Self-preservation vs. the logic of the greater good.)*



Dialog: As this is an in-class simulation the dialog happens IN CHARACTER and the teacher MUST not break character for the instructional dialog to immerse the students.



Plot Structure: Boldly Going follows an exciting "Double Man-in-the-Hole" flow where the climax of the narrative is achieved just before all is lost.



Turning Points: The Renegade's simple Quantum Drive test and recon mission is turned into a mission to save the Earth an everyone on it.

After the "Saturn Station" is Destroyed (Day 5), the mood turns south as there seems to be no other way to save the Earth. Unless… and it's a long shot… we can find Davin Caracus, Captain's Childhood friend turned smuggler.



Setting: Much of this element is done within the PPT design for the forward slides, the student data base, and the alteration of the classroom to mimic the bridge of a starship as much as humanly possible.



Inciting Incidents: The Probe scans our networks and finds coordinates to Earth.

Davin Caracus finds the hexatridium to initiate the Wave Motion Device.



World building: The USS Renegade had a short but meaningful history presented by Adm. Shaegard (Day 1).



Missing Story Elements:

Sub Plots	Had to balance instruction with story development
Point of View	A character building tip that didn't apply in this situation
Pacing	Some pacing had to be done, but not the same as a real story
Conflict	Personal conflict is more engaging, but the Planet Destroyer served as an adequate conflict source.
Flashbacks	While The Capt. did sort of flashback to something Davin Caracus told him in years past, it wasn't a typical flashback that adds to backstory or personal character development.

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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING [5]

IDEAS

MAYBE YOU SHOULD JUST DOWNLOAD ALL THE BOLDLY GOING FILES...

While doing my best to describe this absolute over-kill of a science lesson, to really see it for what it is, you might just need to download all the PowerPoint files and supporting documents to analyze for yourself.

DOWNLOAD MENU

Click to download

DAY 1:
Experience Briefing & Initial Exploration — ZIP

DAY 2:
New Orders & a Potential Problem — ZIP

DAY 3:
New Clues & *The Gegarrin* — ZIP

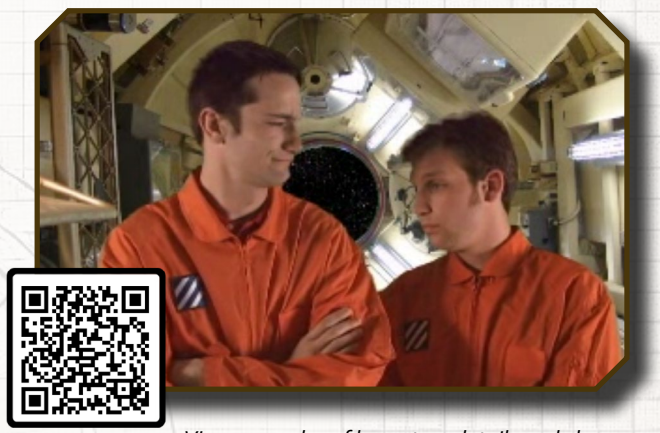
DAY 4:
Wave Motion Device - part 4 — ZIP

DAY 5:
Bad News & Facing the Destroyer — ZIP

SUPPORT DOCUMENTS & MISSION LOGS:
Mission logs students used to track info — ZIP



Watch Admiral Shaegard's Briefing (World Building) example from (Day 1). Click or scan.



View examples of how story details and clues for plot motivate can be provided through thematic and narrative support videos. In this case, two stranded members of DEEP SEARCH provide the Captain with an old digital storage device with cryptic clues on it leading to the location of the "hypermater targeting laser" - The 4th of 5 pieces.

First and foremost, before you think about taking on the task of building something of this size, consider how much you are doing this to indulge into something you love doing.

I loved making and editing video.

I loved science fiction

I loved the idea of being the Captain of a starship

I loved the idea of doing something so nuts, people would talk about it for years.

I loved the adventure I would be able to share with my students.

If you don't love the process and the ACT of building narrative-based instruction, it's very likely there won't be anough gas in the tank so to speak to finish the project.

Some hints as you plan and consider your task ahead:

- Δ Start small and do just one lesson that has this feel to it.
- Δ Work your way up to doing week or two week-long units.
- Δ Find people that can help with the media production. Video production is pretty ubiquitous today and a greater chance you'll be able to use AI or a skilled student to help edit and produce media.
- Δ If the unit you want to build is in the Spring, start planning and doing all the production work in the Fall term to give lots of time to overcome unforseen technical challenges.



View another example of how story details and clues for plot motivate can be provided through thematic and narrative support videos. In this case, Sgt. Weaver (a clone trooper before it was cool). Finds descriptions of mining equipment that the Russians must have taken the "Actuators" to and when we piece those clues together, will be the next stop on our journey.

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CREATIVITY: LIVED EXAMPLE: BOLDLY GOING [6]

IDEAS

WATCH A COMMENTARY WALK THROUGH OF BOLDLY GOING:

The student experience was about 45 min over 5 classes. You'll experience it in about 30 minutes. Watch the Boldly Going story walk through using your phone.

DAY 1: RECON, THAT'S IT.

Introduction to the Refit USS RENEGADE:
This video has no commentary

***NOTE:** All of the original slides were made in MS Office 2000 and supported with OLD .wmv format files.*
That's right, this program was made 20 years ago.



DAY 2: OH MAN, IT'S ALL DOWN TO US.

Crew of the RENEGADE realizes the fate of the Earth is entirely entirely in their hands.

Commentary provided by Dr. Temple. Author, producer,editor, designer, videographer, director... you get the picture.



DAY 3: IT'S A START, A VERY SLOW START

Carefully comparing the planets qualitative and quantitative elements yields evidence for solving clues, and re-awakening the monster within the USS RENEGADE. Day 3 brings us to what's loft DSOP (Deep Space Observation Platform) and two over stimulated castaways floating about out past Pluto.

Commentary provided by Dr. Temple.



DAY 4: THREE PIECES IS GOOD, BUT NOT GOOD ENOUGH

Day 4 starts with the discovery of the Hypermatter Targeting Laser. Time is running out, there are at least two more pieces to go.

Commentary provided by Dr. Temple.



DAY 5: AGAINST ALL ODDS

With Caracus on his way to do the impossible, the USS RENEGADE and the RFS GAGARIN head off for the final battle for Earth.
Even if we can't get the hexatridium in time, we still have one final move. But you're not going to like it.

Commentary provided by Dr. Temple.



THE FULL SCREEN CONCLUSION OF "BOLDLY GOING"

When Nate Temple and I worked on this we were both in agreement that when it came time for the RENEGADE to vaporize the Destroyer, it had to be full screen. It was projected on to the front screen of the classroom. Just for this project Dr. Temple purchased a custom over-sized pull down screen. 110 inches wasn't gonna do it. The replacement stretched 210 inches and gave the ending of Boldly Going the dramatic presence is needed to finish the unit out right.

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CREATIVITY: THE "ROAD SIGN" VIDEO KEEPS FLOW IDEAS

WHAT IS A "ROAD SIGN" VIDEO?

A ***road sign video*** is what it sounds like. It's a video that efforts to connect the learning to the content and the Narrative. Road sign videos provide directions, options, and attempt to provide meaning to the learned content as well as. A well designed road sign video would have the following elements:

1. **Quick summary** of what has happened so far connecting the content with the story.

   Example: In Boldly going, the teacher was the living road sign video. But if we wanted to make Boldly Going self-contained. We'd likely need a road sign video at the very beginning of each day relating the content and the story from the prior day, assuming this was a video for day two.

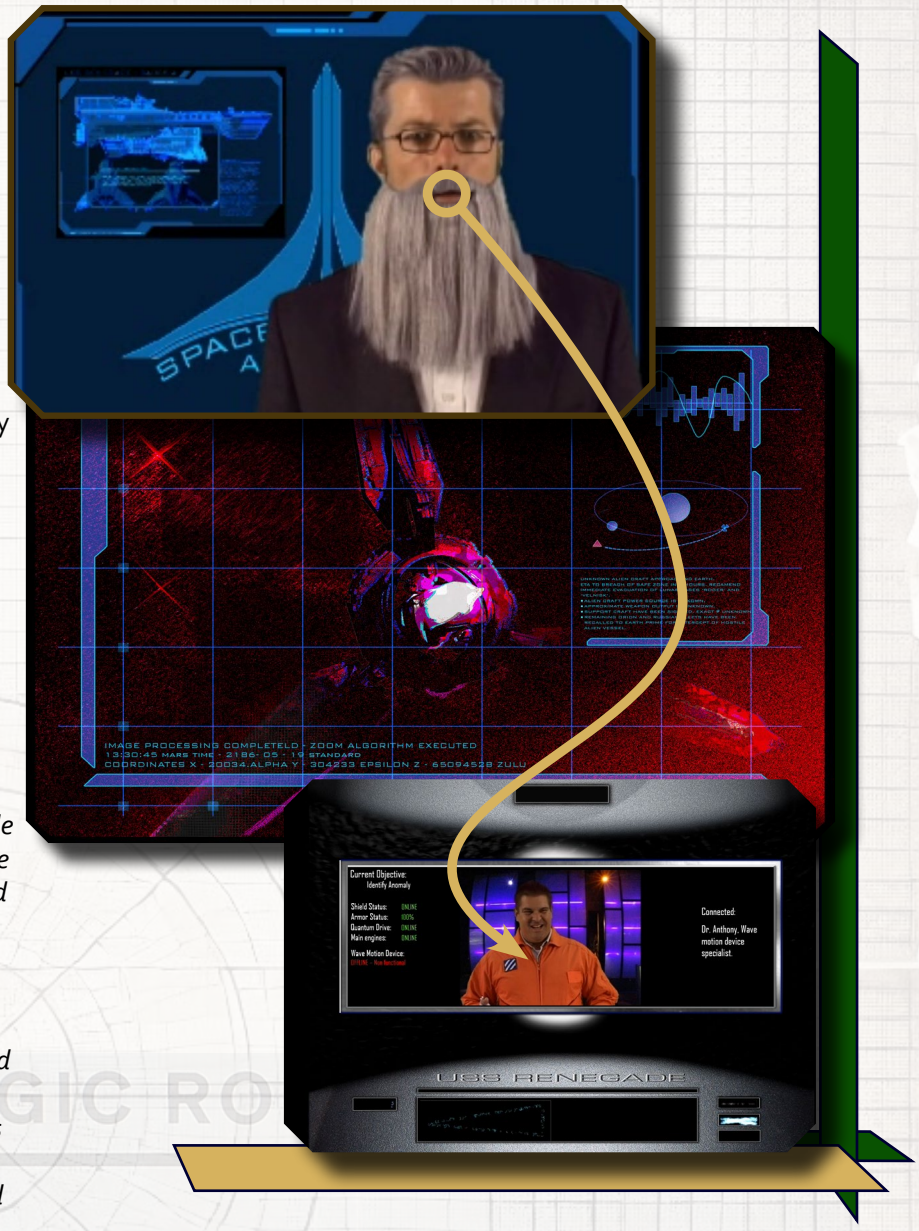
   RS Video script for Boldy Going Day 2:
   "What seemed to be a routine recon mission went, well, sideways in a hurry. The USS Renegade held together pretty well, having tested the quantum drive twice. Thought wasn't the only discovery we made. We also realized that the Earth matched the data held in the crashed ship concerning the M-class planets what were being destroyed - and that was all you. The Renegade's planetary database provided you the information to determine that Earth was going to be a possible next target. But, seems that was all for not as that alien probe hacked our Nav systems, took off towards Earth, and wrecked the Icarus Station, and… so much more with advanced weapons our defenses were helpless against.

   That said, there is some hope. Housed within the USS Renegade is the most powerful destructive device ever devised by the minds of Earth. It is currently missing its 5 main core firing components and our mission now, is to find these pieces before all of humanity is wiped from existence. We need to find them and install them back into their firing positions, and maybe, just maybe it's strong enough to kill this civilization mashing monster and save Earth.

   OK, we have a meeting in a minute with the Engineering Department to see what we need. I also asked the head engineer to see if he could find any evidence of where exactly these missing parts could have been manufactured. Listen, very carefully to what he has to say.

2. An **open ended dissonance** soaked series of statements about upcoming story elements and the content that connects to it. These statements act to pull the students' need for resolution into engaging with the content.

   Example: In AREA154: Apocalypse Division the "Director would set the stage by talking about the unknown variables about the volcano and how the average person has no idea how much energy is blasted from that volcano should it go off. He'd introduce the comparison table to give the students an idea of how over-powered the volcano is compared to devices students, through video games most likely, would understand the energy yield. You'll need to know and understand these comparisons if you have any hope of convincing people to take cover and let you help them.



AREA154: Super Volcano Case File Day 2

Use the QR code to the right to see an example of a road sign video used to connect the previous day and the work ahead. Was the "Director" able to accomplish both road sign video tasks?



You can scan to watch on your phone, or click to open a web page and view.

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SEMPER AD MELIORA
"Always Toward Better"

CREATIVITY: NARRATIVES... FOR NARRATIVES?

IDEAS

A solid question was asked recently at a training involving narrative building and story elements. The diligently asked question was, "What if your Problematic Content Area, was actually ... a story? How do you build a narrative for a story?"

Had I not been thinking about this very issue the night before, I would have been left staring at this person with absolutely nothing to offer. The pleasant assist I got from the powers of the univers provided me with an answers, it was simple, but I think effectve. The answer I provided was:

"Change the story."



Image produced by Dall-E, Open-Ai.
Prompt: King Arthur pull a light saber from the stone instead of Excalibur.

WHAT IF AND WHY NOT: A STARTING POINT FOR STORY ALTERATION

Below are a list of "what ifs..." and "why nots..." situations that can open up all sorts of interesting variations of an existing narrative. There is a spectacular example of this idea that Marvel Studios used to wring more money out of their IP. If you've seen the Streaming Series, "What If..." you will know exactly what I mean.

Strategy	Example
Alter the Timeline	***What if...*** the timeline were altered and a key event in the story didn't occur? ***Why not...*** have it happen twice?
Temporal Shift	***What if...*** the time frame wasn't the 1800's but 2020 during the pandemic? How would the characters and plot translate to those times? ***Why not...*** have one of the characters in the plot be replaced by the cast of Star Wars: The Force Awakens?
The Modern McGuffin	***What if...*** through some accident a modern object is inserted into the storyline in a crucial point in the protagonists development. Then think through all of the lessons that would have missed by the a particular character to guide their development and growth. Follow the new timeline and logical conclusions for story events and character development with this new story driving asset. What if Excalibur was actually a laser sword like the "Dark Saber." ***Why not...*** Place two of these modern McGuffins into the story line and give the second one to the antagonist.
Story Arc Mismatch	***What if ...*** Take the "Cinderella" story arc and replace it with it with the "Icarus" story arc. Dive into the posibilities and character development through the different arc. ***Why not...*** split the previous story line at the midpoint and randomly insert a different story arc. Study the outcomes of the characters given the new direction in the story arc.
Personality Swap	***What if ...*** we replaced the protagonist (or anyone else) of a story with a similar character from a completely different genre. Put them on a spinning wheel or roll dice to see who fate decides to insert into the character. Imagine Romeo's personality being replaced by Deadpool... Trace the events. ***Why not...*** Flip flop the protagonist's personality with the antagonist of another genre. Imagine Juliet being replaced by the Wicked Witch of the West. Translate the actions of Juliet through this new filter to see how the narrative might change.
Social Media	***What if ...*** We gave the main characters of a book or any other studied narrative and gave them a social media account. What would their posts look like if the posts were made within the original timeline. Post with the proper prose of the time period. ***Why not...*** Change the entire time period to modern times. What would Romeo, Juliet, and company post about and what if this were all happening in 2025? What would their Social Media beefs look like? Sound like?

CREATIVITY: THEME VS A NARRATIVE

IDEAS

Throughout the Eduneering Initiative document we have discussed two words quite a bit. '**Theme**' and '**narrative.**' Let's discuss the fundamental difference between the two, and what makes them similar.

THEME:

Definition: The theme is the underlying central idea, moral, or message of a story. It reflects universal truths, life lessons, or philosophical concepts. Themes are abstract and often not explicitly stated; they emerge naturally through plot events, characters' decisions, and conflicts.

Theme Examples:

- Love can overcome adversity
- Power corrupts
- Courage in the face of fear
- Importance of family
- The inevitability of change
- Survival requires sacrifice
- Evil is repaid with evil, the balance over time is always kept
- Having no plan is planning to be unprepared.

NARRATIVE:

Definition: The narrative is the structured sequence of events or story that describes how characters and settings interact to achieve a plot. It is the "what happens" and "how it happens" part of storytelling. *Narratives have clear components such as exposition, rising action, climax, falling action, and resolution.*

Theme Examples:

- Romeo and Juliet (Shakespeare) – Two young lovers from feuding families secretly marry and tragically die, leading to reconciliation.
- Star Wars – Luke Skywalker discovers his heritage, trains as a Jedi, confronts his father Darth Vader, and ultimately helps defeat the Empire.
- The Hunger Games – Katniss Everdeen participates in a deadly competition, becomes a symbol of rebellion, and overthrows oppressive rulers.
- Finding Nemo – A clownfish named Marlin journeys across the ocean to rescue his captured son Nemo, facing numerous obstacles along the way.
- Harry Potter series – Harry discovers he is a wizard, attends Hogwarts, and fights to defeat Voldemort, encountering friendship, betrayal, and self-discovery.

WHERE THE TWO COLLIDE:

In educational lesson building, you can have lessons built for instruction that absolutely follow the traditional plot lines as delineated by a narrative. You can also have a narrative that has a what, how, who, when, where, and why… but without the traditional expositional components. Example: *AREA154: Apocalypse Division.*

AREA154 was about student lived experiences within a live simulation. The theme was survival using science. The students and the ongoings of their training was the plot. Whereas, Boldly Going, had a pre-designed plot that students worked their way through much like how a person would read a book or view a movie.

A narrative or story can have one or more themes over the course of the plot. But themes, cannot have a plots. They are large scale descriptors that help make sense of the actions of the content of the narrative.

You might consider the difference between Narrative and Theme like this:

Narrative: ***The who, what, when, how, why*** - an objective display of events within a story
Theme: The ***relevance to the human condition***, to people in general, to ourselves specifically.



Note: *The panels, like a comic book, show action, events, places, people, and the data of the story. Narrative is the prescriptive details that work along a timeline.*

Images created by Dall-e, OpenAi
Prompt: Style: Clear, storyboard or comic-strip style. Structure: Horizontal sequence showing clear progression from left (start) to right (end). Elements:Panel 1 (Exposition): Characters and setting introduced (e.g., a hero in a quiet village). Panel 2 (Rising Action): Conflict emerges (e.g., a dragon threatens the village). Panel 3 (Height of action):Hero confronts the dragon. Panel 4 (Falling Action): Dragon defeated, villagers celebrate.

Note: *Theme has no timeline. It is pervasive through out the entirety of the narrative. One could say, that theme is the underlying rule set that governs events and character choices through out the story path.*



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"Always Toward Better"

CREATIVITY: ALSO NEEDS ORGANIZATION

IDEAS

Ask any productive person about the importance of being organized, get ready. They will talk your ear off about the 4 different ways they keep track of their emails and deadlines. Asked about the criticality of organization and they will tell you that this factor alone can mean the success or epic failure of any long term project.

THE KEY ISN'T THE SOFTWARE.

THE KEY IS ACTUALLY DOING WHAT IT TELLS YOU TO DO ON TIME.

LOW COST PROJECT TRACKING — EXAMPLE

Microsoft Word:

Very Basic: Create a document with a table. Create a heading that looks like this:

Task	Date entered	Task Description	Resources needed	DUE DATE:

Cooperation:

The document which could be in either Google Docs or MS Word for your school, these documents can be shared and worked on at the same time or asynchronously.

Good bits:

Easy to make and share
Easy to format and customize
Can be collaborative

Bad bits:

Can't to math
Has no ability to sort by date, or time, or anything else.
Difficult to get access to if you needed to review the information.
The Doc format doesn't expand to multiple users well. Intended for one person or small group to use.

LOW COST PROJECT TRACKING — EXAMPLE

Microsoft Excel:

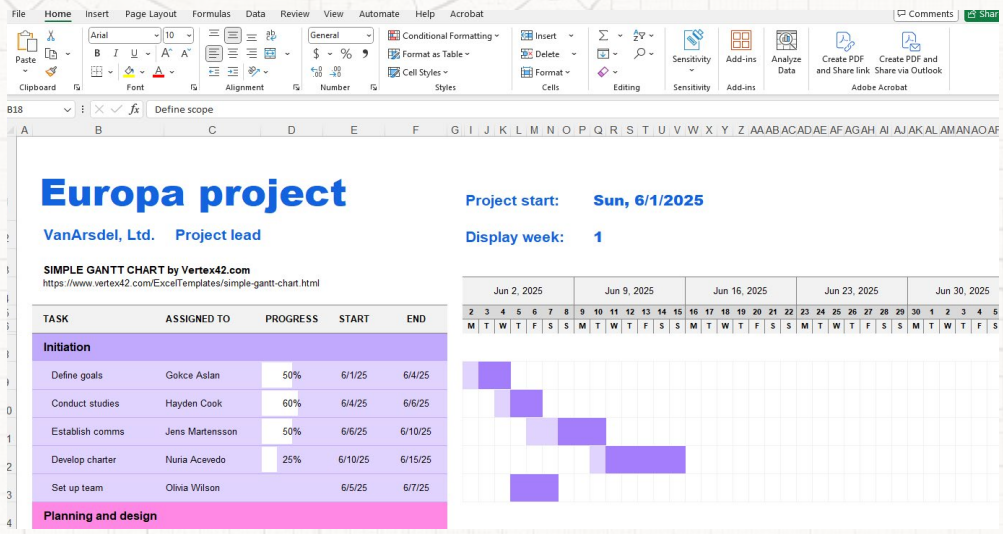
Basic: Not too different to the table in MS Word, except the grid has already been made.

(Same info)

Task Date entered Task Description Resources needed DUE DATE

OR

Download a project Management Excel document after opening Excel.



Good Bits:

Also known as a "Gant sheet" this format is best for working with a team and there is one designated "Nag Master" who would keep this document up to speed. Unless you're very savvy with Excel, this might not be the most time sensitive endeavor. Doesn't require a subscription or a trial period. Also a huge number of tutorials on Excel all over YouTube.

Bad Bits:

Excel isn't known for it's text management. Data grid boxes are very hard to format and hard to predict. Text does not edit like it does within a word processor, like MS Word.

CREATIVITY: ALSO NEEDS ORGANIZATION — IDEAS

LOW COST PROJECT TRACKING — HOW TO ON TRELLO.COM

Trello.com

Trello is a visual project management tool organized through boards, lists, and cards:

- Δ Boards represent a complete project.
- Δ Lists indicate stages or categories within a project (e.g., "To Do," "In Progress," "Done").
- Δ Cards represent tasks within these lists, containing details, due dates, attachments, comments, checklists, and assigned team members.

Create an account (Required)

Vidit trello.com
Click "sign-up and follow the prompts to create your own account

Create a "Board":

1. From your dashboard, click Create (top menu), then choose Create Board.
2. Enter a title for your board (e.g., "Website Redesign Project").
3. Choose visibility (Private, Workspace, or Public).
4. Click Create.

Add lists to your board:

1. Click Add a list on your board.
2. Name it clearly (e.g., "To Do," "Doing," "Review," "Completed").
3. Press Enter or click Add List.
4. Repeat for all project stages needed.

Create Task Cards

1. Click Add a card under a list.
2. Enter task name (e.g., "Design Homepage Wireframe").
3. Press Enter to save.
4. Repeat for each task.

Organize and Manage Cards

1. Click on a card to open it.
2. Add a detailed description.
3. Set a Due Date (right-hand sidebar).
4. Assign team members by clicking Members.
5. Attach files/images via Attachment.
6. Add a Checklist if task requires subtasks.
7. Use Comments to communicate updates.

Moving Cards:

1. Drag and drop cards between lists as task status changes.

Invite Team members:

1. Click Share (top right of the board).
2. Enter emails or usernames of teammates.
3. Select permission level (Admin, Member, or Observer).
4. Click Send Invitation.

Track Progress & Manage Flow:

1. Regularly review board activity.
2. Use labels for categorization (e.g., priority levels, departments).
3. Use the Filter option (top right) to quickly find tasks.

Archiving or completing

1. Archive completed cards by opening the card, clicking Archive.
2. Archive lists or entire boards when projects conclude (via list or board menu).

Quick Reference List:

Task	Quick Steps
Check Project Status	Review boards, lists, and cards daily.
Add/Update Task Details	Click a card, edit/add descriptions.
Assign a Task	Click Members, select team member(s).
Move Task (Change Status)	Drag and drop card across lists.
Set Deadline	Open card, select Due Date.
Communicate Updates	Use Comments inside a card.
Attach Files	Open card, click Attachment.
Organize Cards Visually	Use Labels for easy categorization.

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Click icon to return to main menu page

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APENDIX A

A-1 RESOURCES FOR EFFICACY & MEMORY

Additional sources for the topic reflecing efficacy of handwriting and computer use for long term memory or learning effectiveness.

Key White Papers and Peer-Reviewed Studies
Mueller & Oppenheimer (2014), Princeton and UCLA Study
This foundational study found that students who took notes by hand performed better on conceptual questions than those who typed notes. The authors concluded that typing encourages verbatim transcription, while handwriting requires processing and rephrasing, leading to deeper learning and better memory retention.

Frontiers in Psychology, Norwegian University of Science and Technology (2024)
Recent research monitored brain activity in students taking notes and found that handwriting activated more widespread and interconnected brain regions responsible for movement, vision, sensory processing, and memory. Typing, by contrast, led to minimal activity in these areas. The study supports the idea that the physical act of handwriting enhances encoding and retention of information.

Meta-Analysis of 24 Studies (2024)
A comprehensive review of 24 studies (totaling 3,005 participants) found a clear performance benefit for handwritten notes over typed notes. The advantage was stable across different types of assessments and time delays. The review also highlighted that handwritten notes often include more drawings and images, leveraging dual coding processes for better memory retention.

PMC Article: Advantage of Handwriting Over Typing on Learning Words (2021)
This study found that adults recalled more words when they were written by hand rather than typed. Handwriting movements were shown to facilitate better memorization, with supporting evidence from MRI and EEG studies showing greater brain activity in regions associated with memory and action during handwriting.

University of Tokyo Study (2021)
Research led by Professor Kuniyoshi Sakai demonstrated that subjects who wrote by hand recalled information more quickly and with greater brain activity than those who used digital devices. The tactile, personalized experience of handwriting was linked to stronger memory formation.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. Canadian psychology/Psychologie canadienne, 49(3), 182.

LSU Honors Thesis: A Comparison on the Effects of Handwriting and Typing on Memory Retention (2017)
This experiment with college students found that those who handwrote information had better memory retention of copied texts than those who typed, supporting the positive correlation between handwriting and memory.

Additional Summaries and Reviews
Scientific American (2024)
Summarizes recent research and explains that handwriting notes requires students to actively process and prioritize information, which leads to better consolidation and retrieval compared to typing.

Learning Scientists Blog (2024)
Highlights that handwritten notes promote deeper processing and often include more visual elements, both of which contribute to improved memory and comprehension.

Key Mechanisms Identified
Handwriting requires deeper cognitive processing, paraphrasing, and summarization, which strengthens memory encoding.

The physical act of writing by hand engages more brain regions, including those related to motor skills, vision, and sensory integration, enhancing retention.

Handwritten notes often incorporate images and diagrams, leveraging dual coding theory for better recall.

Conclusion
The consensus across multiple white papers and peer-reviewed studies is clear: handwriting notes leads to better memory retention and comprehension than typing notes on a computer, due to deeper cognitive engagement and more robust brain activation during the notetaking.

Source Materials:

Ihara, A. S., Nakajima, K., Kake, A., Ishimaru, K., Osugi, K., & Naruse, Y. (2021). Advantage of Handwriting Over Typing on Learning Words: Evidence From an N400 Event-Related Potential Index. Frontiers in human neuroscience, 15, 679191. https://doi.org/10.3389/fnhum.2021.679191

MedCerts White Paper:
Click to See Article On Company Site

The Spectator Online Publication:
Click to See Article on Publication Site

SCI AM Online Publication:
Click to See Article on Publication Site

The Learning Scientist Online Publication:
Click to See Article on Publication Site

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APENDIX A

A-2 UBIQUITOUS LEARNING DESIGN

U-Learning is the ability to connect to learning, communities, and assistance for content any time any where.

Key White Papers and Peer-Reviewed Studies Mueller & Oppenheimer (2014), Princeton and UCLA Study

Barbosa, J. L. V., Hahn, R. M., Barbosa, D. N. F., & Saccol, A. I. D. C. Z. (2011). A ubiquitous learning model focused on learner interaction. International Journal of Learning Technology, 6(1), 62–83.

Bloom, B. S. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. Educational Researcher, 13(6), 4–16. http://www.jstor.org/stable/1175554.

Chiu, P., Kuo, Y., Huang, Y., & Chen, T. (2008). A meaningful learning based u-learning evaluation model. In 2008 Eighth IEEE International Conference on Advanced Learning Technologies, Santander, Cantabria (pp. 77–81).

El-Bishouty, M. M., Ogata, H., Rahman, S., & Yano, Y. (2010). Social knowledge awareness map for computer-supported ubiquitous learning environment. Journal of Educational Technology & Society, 13(4), 27–37.

Erickson, A. (2013). Ubiquitous learning: Strategies for pedagogy, course design, and technology, edited by Terry T. Kidd and Irene Chen. Teaching Theology & Religion, 16, e10–e11. https://doi-org.libproxy.boisestate.edu/10.1111/teth.12069

Huang, H.-W., Wu, C.-W., & Chen, N.-S. (2012). The effectiveness of using procedural scaffoldings in a paper-plus-smartphone collaborative learning context. Computers and Education, 59(2), 250–59. https://doi.org/ 10.1016/j.compedu.2012.01.015.

Huang, R. K., & Springer-Verlag, G. (2016). Ubiquitous learning environments and technologies. Springer Berlin.

Hwang, W.-Y., Chen, H.-R., Chen, N.-S., Lin, L.-K., & Chen, J.-W. (2018). Learning behavior analysis of a ubiquitous situated reflective learning system with application to life science and technology teaching. Educational Technology & Society, 21(2), 137–49.

Jones, V., & Jo, J. H. (2004, December). Ubiquitous learning environment: An adaptive teaching system using ubiquitous technology. In Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference (Vol. 468, p. 474).

Kidd, T. T., & Chen, I. (Eds.). (2011). Ubiquitous learning: Strategies for pedagogy, course design and technology. Information Age Publishers.

Laborda, J. G. (2015). Ubiquitous learning environments and technologies. British Journal of Educational Technology, 46(6), E32–E33. https://doiorg.libproxy.boisestate.edu/10.1111/bjet.12373

Looi, C.-K., Seow, P., Zhang, B., So, H.-J., Chen, W., & Wong, L.-H. (2010). Leveraging mobile technology for sustainable seamless learning: a research agenda. British Journal of Educational Technology, 41(2), 154–69.

Ogata, H., & Yano, Y. (2004). Knowledge awareness map for computer-supported ubiquitous language-learning. In Proceedings of the International Workshop on Wireless and Mobile Technologies in Education (pp. 19–26). https://doi.org/ 10.1109/WMTE.2004.1281328

Ogata, H., & Yano, Y. (2009). Supporting awareness in ubiquitous learning. International Journal of Mobile and Blended Learning, 1(4), 1–11. https://doi.org/ 10.4018/jmbl.2009090801.

Rogers, Y., Price, S., Randell, C., Fraser, D. S., Weal, M., & Fitzpatrick, G. (2005). Ubi-learning integrates indoor and outdoor experiences. Communications of the ACM, 48(1), 55–59. https://doi-org.libproxy.boisestate.edu/10.1145/1039539.1039570

Temple, T. G. (2021). An Analysis of Ubiquitous Learning Environments and STEM Confidence Building Among Hispanic Students. Boise State University.

Warschauer, M. (2004). Technology and social inclusion: Rethinking the digital divide. MIT press.

Wang, S. L., & Wu, C. Y. (2011). Application of context-aware and personalized recommendation to implement an adaptive ubiquitous learning system. Expert Systems with Applications, 38(9), 10831–38.

Weiser, M. (1993). Some computer science issues in ubiquitous computing. Communications of the ACM, 36(7), 74–83. http://www.ubiq.com/hypertext/weiser/UbiCACM.html

Yang, S. J. H. (2006). Context aware ubiquitous learning environments for peer-to-peer collaborative learning. Educational Technology & Society, 9(1), 188.

Yin, C., Ogata, H., Tabata, Y., & Yano, Y. (2010). Supporting the acquisition of Japanese polite expressions in context-aware ubiquitous learning. International Journal of Mobile Learning and Organization, 4(2), 214–234. https://doi.org/ 10.1504/IJMLO.2010.032637.

Zimmerman, B. J., & Schunk, D. H. (1989). Self-regulated learning and academic achievement: Theory, research, and practice. Springer-Verlag.

APPENDIX A

A-3 HISPANIC CULTURE & LEARNING

Sources applicable to the research completed on Hispanic culture school, success, dispositions, and the results of the AREA 154 program through Hispanic experience

A nation at risk. (1983). http://www2.ed.gov/pubs/NatAtRisk/risk.html

Alfaro, E. C., Umaña-Taylor, A. J. and Bámaca, M. Y. (2006). The influence of academic support on Latino adolescents' academic motivation. Family Relations, 55, 279–91. https://doi.org/10.1111/j.1741-3729.2006.00402.x

Alfaro, E. C., & Umaña-Taylor, A. J. (2015). The longitudinal relation between academic support and Latino adolescents' academic motivation. Hispanic Journal of Behavioral Sciences, 37, 319–41.

Altshuler, S. J., & Schmautz, T. (2006). No Hispanic student left behind: The consequences of "high stakes" testing. Children & Schools, 28, 5–14.

Baumeister, R. F. (2005). The cultural animal: Human nature, meaning, and social life. Oxford University Press.

Carr Jr, J. E. (2013). What is the impact of full access to technology on the achievement of the Hispanic student? ProQuest LLC

Craft, K. F. (2011). Academic performance differences among Texas grade 8 students who are White, Hispanic, or limited English proficient. Sam Houston State University

Gandara, P., & Contreras, F. (2009). The Latino education crisis: The consequences of failed social policies. Harvard University Press.

Kayaardi-Hinojosa, N. (2011). The school performance of Hispanic students: A generational approach (Doctoral dissertation, Texas Woman's University).

Karantinos, N. T. (2009). The Hispanic student achievement gap: An exploratory study of student demographic variables that impact student achievement. Arizona State University.

Kayaardi-Hinojosa, N. (2011). The school performance of Hispanic students: A generational approach (Doctoral dissertation, Texas Woman's University).

Lovejoy, B. (2006, Oct 7). Pulling together to close the Hispanic achievement gap. Salt Lake Tribune. http://libproxy.boisestate.edu/login?url=https://search-proquestcom.libproxy.boisestate.edu/docview/282088804?accountid=9649

Simpkins, S. D., Price, C. D., & Garcia, K. (2015). Parental support and high school students' motivation in biology, chemistry, and physics: Understanding differences among Latino and Caucasian boys and girls. Journal of Research in Science Teaching, 52(10), 1386–1407.

Temple, T. G. (2021). An Analysis of Ubiquitous Learning Environments and STEM Confidence Building Among Hispanic Students. Boise State University.

Unsworth, N., Redick, T. S., Gregory, J., Spillers, J., & Brewer, G. A. (2012). Variation inworking memory capacity and cognitive control: Goal maintenance and microadjustments of control. Quarterly Journal of Experimental Psychology, 65(2), 326–55.

Van Manen, M. (2015). Researching lived experience: Human science for an action sensitive pedagogy (2nd ed.). Left Coast Press.

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APENDIX A

A-4 COGNITIVE, CULTURAL, BEHAVIORAL

This is a repository for links and informational sources used in the develpment of this book specifically on the topics of cognitive functions, neurochemistry, and cultural influences on human behavior and learning.

A nation at risk. (1983). http://www2.ed.gov/pubs/NatAtRisk/risk.html.

Alfaro, E. C., Umaña-Taylor, A. J. and Bámaca, M. Y. (2006). The influence of academic support on Latino adolescents' academic motivation. Family Relations, 55, 279–91. https://doi.org/10.1111/j.1741-3729.2006.00402.x

Alfaro, E. C., & Umaña-Taylor, A. J. (2015). The longitudinal relation between academic support and Latino adolescents' academic motivation. Hispanic Journal of Behavioral Sciences, 37, 319–41.

Altshuler, S. J., & Schmautz, T. (2006). No Hispanic student left behind: The consequences of "high stakes" testing. Children & Schools, 28, 5–14.

Acharya, A. (2016). Marshfield Clinic Health System: integrated care case study. Journal of the California Dental Association, 44(3), 177-181.

Boroditsky, L. (2000). Metaphoric structuring: Understanding time through spatial metaphors. Cognition, 75(1), 1-28.

Carr Jr, J. E. (2013). What is the impact of full access to technology on the achievement of the Hispanic student? ProQuest LLC.

Craft, K. F. (2011). Academic performance differences among Texas grade 8 students who are White, Hispanic, or limited English proficient. Sam Houston State University

Haidt, J. (2012). The righteous mind: Why good people are divided by politics and religion. Vintage.

Han, S., & Ma, Y. (2015). A culture–behavior–brain loop model of human development. Trends in Cognitive Sciences, 19(11), 666–76.

Lewis, D. A. (1997). Development of the prefrontal cortex during adolescence: Insights into vulnerable neural circuits in schizophrenia. Neuropsychopharmacology, 16(6), 385–98.

Lewis, R. (2014). How different cultures understand time. Business Insider,1.
Lewis, R. D. (2010). When cultures collide. Nicholas Brealey Publishing.

Markus, H. R., & Kitayama, S. (1994). A collective fear of the collective: Implications for selves and theories of selves. Personality and social psychology bulletin, 20(5), 568-579.

Medina, J. (2011). Brain rules: 12 principles for surviving and thriving at work, home, and school. https://readhowyouwant.com.

Rodrigues, S. M., Schafe, G. E., & LeDoux, J. E. (2004). Molecular mechanisms underlying emotional learning and memory in the lateral amygdala. Neuron, 44(1), 75–91.

Schiefele, U. (1991). Interest, learning, and motivation. Educational psychologist, 26(3-4), 299- 323.

Vroom, V., Porter, L., & Lawler, E. (2015). Expectancy theories. In Organizational behavior 1 (pp. 94-113). Routledge.

APPENDIX B

B-1 EXAMPLE: ELEMENTARY LEVEL NARRATIVE

EDUNEERING DEV PLAN OPTION: (EX:1) ELEMENTARY SCHOOL SCIENCE

"SOLAR EXPRESS"

The Narrative:

The students (elementary aged) have been chosen to be part of an intersteller peer to peer tour group. The classroom students would play tour guide for the students in the alien Eonvoy. However, like most trips things don't go to plan. Problems, opportunities, and adventure ensue at the roll of the dice. The number on the dice leads to one of the "Trip adventure" slides where they click on a number that correlates to the dice roll. Answer the question, and you simply move on, get it wrong, and adventure erupts. The goal is to finish the tour, see all the stops, before everyone else. Ultimately your story will be told in a scrapbook style assessment of your journey with the alien buddy. Use AI to insert the student's picture in with his alien buddy as the front page of the students' scrapbook.

"SOLAR EXPRESS" PROJECT COVER ART



Image created by Dall-E, Open Ai
Prompt: Create an image of a group of kids standing on an orbital starport platform with "Solar Express" pamphlets. The students look like they are packed for space travel each with colorful and customized space helmets attached to their duffle bags.

Teacher motivation:

Based on the idea of the "Polar Express", traveling, scrapbooking, and some Rudimentary design skills (enhanced by GAMMA slide show tool). Teacher prepares Omnidoc that includes the key information about each stop on the Solar Express (Planets, rings, asteroid beld, minor planets). On each slide would be an animated character that talks about the most important aspects of each planet (video time est. 30-60 seconds). As science was not a major success point or interest point in school for this teacher, it's aventageous to have animated characters present the information on the Omnidocs.

Students are now provided a list of items to pack. These items are specific to the conditions talked about in the solar system summaries and special attractions at each place based on their properties. For example, Jupiter has the highest gravity, so perhaps near the planetary atmospheric barrier is a gym where people can work out in 2.5x gravity. In this case, the student would need to pack very light weight clothes not to add to struggle of moving around in a high gravity environment. Students choose and explain why they needed a certain item at a certain location in their "Solar Express Packing List" - which could be on paper or done in a ppt where students drag and drop objects on to their list then write about them. They can only take 4 of the 9 tools on the list. If they pick an adenture card that speaks of something going wrong that could lose space or time and the student has the right tool, they can stay where they are and do not have to lose ground. Students may or may not need any of those tools. It's a matter of chance.

Possible assessment:

At the end of the adventure, students create a scrapbook style summary of their experiences. They can use screen captures, or AI, or hand drawn images to suppliment the visuals and pictures. There should content guides on the Omnidoc after the "game" has been played & a video screencapture that tells the students what to do and how to successfully complete the assignment.

Possible assessment:

students are provided scrapbooking supplies and prepare a series of pages showing what their time was like on each of the five destinations. The app.video.ai site can generate images of the students doing the things they described, printed and then cut out to put into their "Solar Express" scrapbook. These could then be put on display in the room.

Why is this an example of u-Learning driving Eduneering?

For starters, that PPT that was produced by the teacher had ALL of the planetary information in it. Links, images, videos, all | embedded for the student to use in a one stop shopping learning experience. The PPT could have also been accessible from a teacher website. Here students at home could access the PPT Omnidocc 24/7 to work on it should they be in a place where attending class isn't an option.

The "Solar Express" theme put the students into a specific role tasking them to see the data through a different set of "eyes" than those of an elementary school student. Additionally, the assessments were all part of the narrative and included within the theme and could also be done outside the class assuming there was a Omnidoc accompanying the assessment instructions showing the student what to do, how to do it, and where to put the required information.

APPENDIX B

B-2 EXAMPLE: SECONDARY LEVEL NARRATIVE

EDUNEERING DEV PLAN OPTION: (EX:2) MIDDLE SCHOOL MATH

"HOME OF THE FENRIS RANGERS"

Teacher motivation:
Working from the teacher's enjoyment of mysteries, thrillers, justice, and sci-fi.

Enter the "*Fenris Rangers*":
A rogue group of internet detectives that uncover mysteries and expose the wrong doings of others. However, they don't outright disclose the information, it's always hidden in code. If you can solve the codes, and figure out the clues, you'll hit the mother load of international secrets and a chance to join the Fenris Rangers as a member of their global justice community.

The PCA:

Teacher has noticed that over several years, the students have really struggled with fractions and working with them when there is an unknown to solve for in the problem. It appears that their background
understanding of fractions is lacking which compounds any confusion they have with solving for unknowns.

In this case, the fractions with unknowns is the PCA. It's bad enough that the student's don't really know fractions or the rules associated with arithmetic with fractions, some of the
algebra procedural know-how is a little shaky as well.

Asset breakdown:

Teacher interests and strengths:

- Active in maker space and home engineering
- Big fan of crime shows and international spy stories
- Has interests in website building, not quite a coder, but enjoys putting sites together as a sort of side-hustle for friends, family, and other referrals.

Student profiles:

- 7th grade (11-12 years old)
- Minimal to mild frontal lobe development
- Due dates and timeliness are less of a concern culturally
- Emotional reasoners, tendencies to push back on authority figures
- Highly affected by cognitive dissonance, mysteries, and stories
- Highly conversational, feelings matter a lot, and student-teacher bonds are taken seriously
- Students tend to be self-centered and tend to lack any real understanding of the larger world around them
- School is getting repetitive and students are largely tired of school and how teaching methodologies tend to be all the same regardless of subject
- Socio-economically (15% middle - upper middle; 70% mid to low; 15% at or near poverty)

Demographics~

5% white, 88% Hispanic; 4% Black, 3% other
The SES and cultural profile would suggest that requests made to families or parents would largely be ignored. It's likely that many of the parents don't speak English and don't prioritize school work at home. Students, if they do school work at home, it's done usually later at night many hours after school ended. (Profile built around three different Riverside County School Districts' demographics as of 2025 representing approximately 43,000 students).

Technical and professional assets:

- Internet search and image acquisition abilities
- Basic understanding of PowerPoint along with a district subscription to PowerPoint
- Web Site editing and building skills
- Basic photo manipulation abilities
- Familiarity with AI - both as a technology and as a user

Instructional time allocation:

Time allotted to the concept is between 5-6 instructional days, including the assessment.



The Teacher, having an interest in criminal investigations could run with the idea that the Fenris Rangers are the kids in the class OR they are the students that were chosen to help the Fenris Rangers.

What option makes the most sense for a middle school classroom?

What roll would the teacher's web design abilities play in the construction of this fractional fiction?

Would it be part of the mainstream class or would it be something that rests on top of the work done in class?

Under what narrative conditions would the students practice the math they need help with?

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APPENDIX C

C HSI ANALYSIS OF EDUNEERING INITIATIVE

HSI ALIGNED FRAMING OF THE EDUNEERING INITIATIVE.

HISPANIC-SERVING INSTITUTIONS: HOME PAGE

Evaluated by: Dr. Melissa Ortega

The Eduneering Initiative aligns closely with research-based frameworks on Hispanic-Serving Institutions (HSIs), particularly the concept of "servingness," which emphasizes the intentional cultivation of equity, belonging, and cultural affirmation for Latinx students (Garcia & Núñez, 2019). Rather than focusing solely on enrollment numbers, servingness calls for systemic practices that support Latinx student success across academic and non-academic dimensions.

One notable alignment is the initiative's focus on inclusive instructional design centered on learner success and adaptability. This approach reflects the core principles of servingness by creating learning environments that affirm student identity and promote equitable outcomes (Garcia, Núñez, & Sansone, 2019). References to neurodiversity, emotional regulation, and identity development signal a commitment to the multidimensional needs of students, reinforcing the importance of supporting persistence and engagement beyond traditional academic measures.

This initiative also exemplifies race-conscious and intersectional data use through its implementation of Strategic Learning Engagement (SLE) dashboards. These tools represent an equity-minded approach to disaggregated data, a strategy emphasized by Núñez, Crisp, and Elizondo (2016) as essential to identifying structural barriers and tailoring interventions that meet the needs of historically underserved populations.

Additionally, this document reflects an understanding of organizational behavior as a key driver of student outcomes. By acknowledging changes in leadership and institutional structures, the initiative recognizes the significance of organizational context a perspective grounded in HSI literature that views institutions not just as backdrops but as active agents in shaping equity and access (Núñez et al., 2016).

While the Eduneering Initiative does not explicitly use the language of culturally sustaining pedagogy, its foundational design principles, meeting students where they are, focusing on learner variability, and emphasizing equity align with pedagogical approaches that validate and build upon students' lived experiences (Garcia & Okhidoi, 2015). These practices are especially significant in STEM education, where Latinx students are underrepresented and often face challenges related to cultural incongruence and invisibility (Núñez & Rodríguez, 2023).

References:

Garcia, G. A., & Núñez, A.-M. (2019). Toward a multidimensional conceptual framework for understanding "servingness" in Hispanic-Serving Institutions: A synthesis of the research. Review of Educational Research, 89(5), 745–784. https://doi.org/10.3102/0034654319864591

Garcia, G. A., Núñez, A.-M., & Sansone, V. A. (2019). Toward a multidimensional conceptual framework for understanding "servingness" in Hispanic-Serving Institutions: A synthesis of the research. Review of Educational Research, 89(5), 745–784. https://doi.org/10.3102/0034654319864591

Núñez, A.-M., Crisp, G., & Elizondo, D. (2016). Mapping Hispanic-Serving Institutions: A typology of institutional diversity. The Journal of Higher Education, 87(1), 55–83. https://doi.org/10.1080/00221546.2016.11777417

Núñez, A.-M., Hurtado, S., & Calderón Galdeano, E. (2015). Why study Hispanic-Serving Institutions? In A.-M. Núñez, S. Hurtado, & E. Calderón Galdeano (Eds.), Hispanic-Serving Institutions: Advancing research and transformative practice (pp. 1–22). Routledge.

Núñez, A.-M., & Rodríguez, A. (2023). Toward servingness and equity in Hispanic-Serving Institutions: Reframing institutional accountability. Journal of Women and Minorities in Science and Engineering, 29(2), 91–114. https://doi.org/10.1615/JWomenMinorScienEng.2023040656

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