

The background of the slide is a photograph of a spiral-bound notebook. On the notebook's page, there is a hand-drawn sketch of a lightbulb. Below the lightbulb, the words "What if?" are written in a cursive, handwritten style. To the right of the lightbulb, there is a hand-drawn arrow pointing towards the right. The notebook's spiral binding is visible on the left side of the image.

Visualization & Mental Rehearsal

Presented by your NSCAD
Peer Mentors (2020-21)

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A crumpled blue paper ball sits in the center of a notebook page. The page is covered in faint, hand-drawn sketches, including a large circle around the paper ball, a large arrow pointing right, and some illegible text. The notebook's spiral binding is visible on the left side.

“The human mind can not distinguish
between reality and non-reality.”

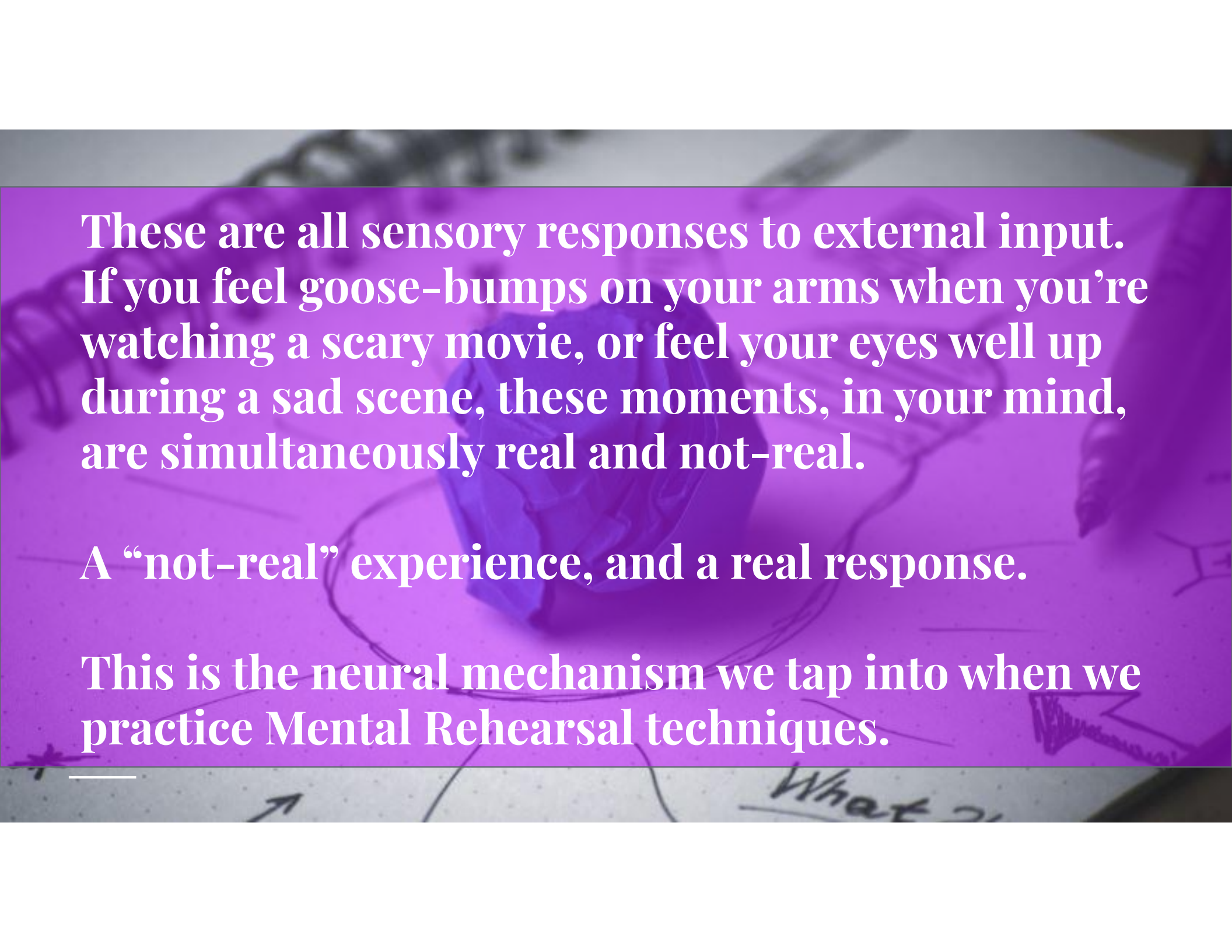
Petruzzi, Jimmy. "Visualization and Mental Rehearsal." *ResearchGate*, March 2019,
https://www.researchgate.net/publication/332057157_Visualization_and_mental_rehearsal



Have you ever had a memory sparked by a certain scent or maybe a song?

Have you woken up abruptly from a bad dream with your heart racing?

Have you had emotional responses to a sad or frightening scene in a movie, even when you know the characters are fictional?



These are all sensory responses to external input. If you feel goose-bumps on your arms when you're watching a scary movie, or feel your eyes well up during a sad scene, these moments, in your mind, are simultaneously real and not-real.

A “not-real” experience, and a real response.

This is the neural mechanism we tap into when we practice Mental Rehearsal techniques.

A crumpled blue paper ball sits in the center of a sketchbook page. The page is filled with various hand-drawn sketches, including a large oval with horizontal lines, a smaller oval with a cross inside, and a large arrow pointing left. The sketchbook has a black spiral binding on the left side. A black pen is visible on the right side of the page. The background is a soft, out-of-focus grey.

What is Visualization /Mental Rehearsal?



Mental Rehearsal is a way for us to imagine ourselves executing a skill and practising the skill in our mind

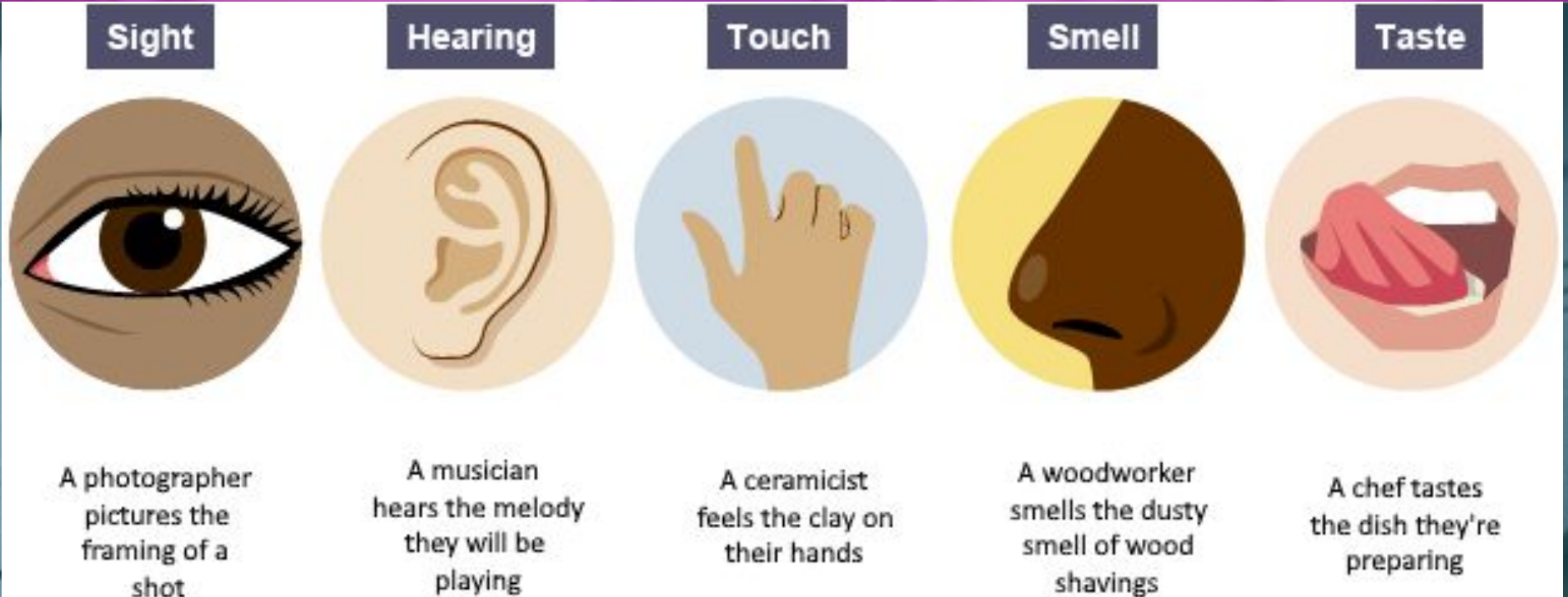
Visualization is a specific type of Mental Rehearsal focusing on visual input/“picturing” an event.

By focusing on the specific situation, task or challenge, and how we will respond,

we can essentially do the thing before doing the thing (and even do it better when the time comes because we’ve done it before!).

Using all the senses...

The term "Visualization" can make it seem as if picturing the event or task is the most important part -- However Mental Rehearsal is most effective when we activate as many of our senses as possible, making the experience as visceral and immersive as possible. Sometimes visual cues are not the focus, and other senses are more effective to tap into/focus on.



Adapted image from "Mental Preparation." BBC, <https://www.bbc.co.uk/bitesize/guides/zgntfrd/revision/2>



A Gateway to action:

“Too often, we associate mental rehearsal with positive self-talk or imagining scenes that make us feel good. That misses *the secret sauce of motor preparation* [...] **Effective mental rehearsal is a gateway to action via state-dependent learning.** To change our emotional reactions to situations, we need to **actively evoke the very emotions we dislike through visualization and/or re-enactment** and then radically shift our state through **positive coping.**”

Steenbarger, Brett. "Tapping the Power of Mental Rehearsal." *Forbes*, 17 Feb. 2018,
<https://www.forbes.com/sites/brettsteenbarger/2018/02/17/tapping-the-power-of-mental-rehearsal/?sh=3cf7b63866f0>

Desensitization

This is an evidence-based technique used in psychotherapy for overcoming anxiety, which employs Mental Rehearsal techniques.

“By repeatedly facing threatening situations under calm, controlled emotional conditions, we learn to respond in desired ways, free of threat.”

“The anxious person in desensitization treatment doesn't merely imagine themselves to be calm. They vividly imagine engaging in threatening acts (thereby arousing anxiety) and then they activate effective coping strategies. This motor preparation enables them to create new mental pathways, connecting actual life performances with new emotional consequences.”

Steenbarger, Brett. "Tapping the Power of Mental Rehearsal." *Forbes*, 17 Feb. 2018,
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****DISCLAIMER**** Doing this process on your own can be helpful for situations that cause mild anxiety or discomfort. If you have triggers you'd like to work on that are associated with traumatic experiences, it can be unsafe to attempt this process without professional support. Your safety is most important--if this exercise feels scary or unsafe, do not attempt/continue. Contact a counsellor or therapist to support you in dealing with more severe anxiety or feelings linked to traumatic experiences.



Benefits

Mental rehearsal *actually* does make real, measurable changes to performance.

- Reduces anxiety by helping you relax
 - Builds confidence, allowing you to picture and feel success
 - Improves concentration allowing you to focus on the task
 - Helps us overcome and find solutions to problems which may arise
 - Improves results by developing automatic muscle responses
-

A crumpled blue paper ball sits in the center of a sketchbook page. The page is filled with faint, hand-drawn sketches, including a large oval shape with horizontal lines inside, and various geometric shapes and lines. A black pen lies on the right side of the page. The spiral binding of the notebook is visible on the left. A semi-transparent pink banner is overlaid at the bottom of the image.

An Example...

Adapted example from
Steenbarger, Brett. "Tapping the Power of Mental Rehearsal." *Forbes*, 17 Feb. 2018,
<https://www.forbes.com/sites/brettsteenbarger/2018/02/17/tapping-the-power-of-mental-rehearsal/?sh=3cf7b63866f0>

A third year student has had a great experience in their first two years of university; They worked hard, enjoyed most of their classes, and received consistently high grades. Their Art History professor is now strongly encouraging them to pursue higher level history courses alongside their studio-based courses.

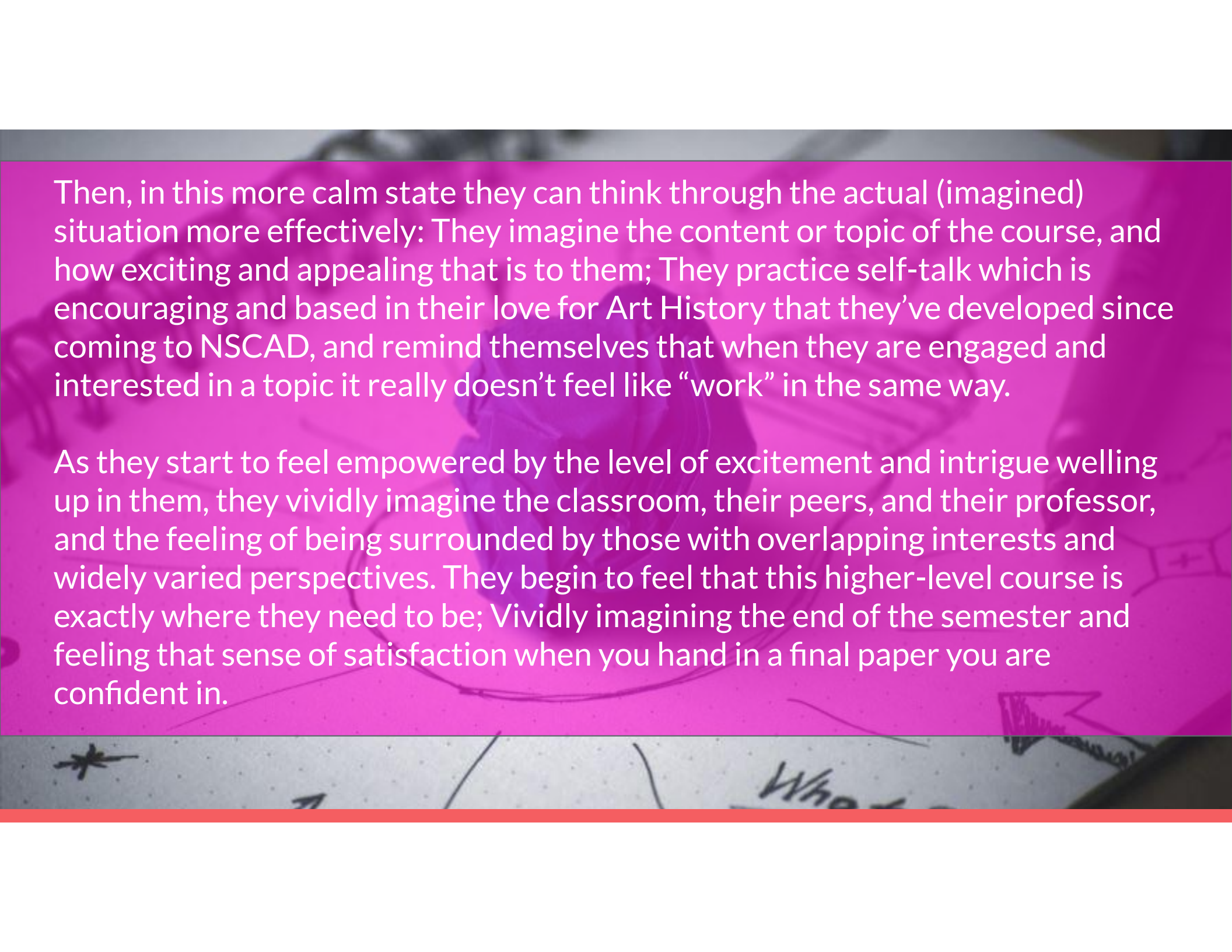


They find themselves fearful of taking on more than they can handle after seeing those high-level course numbers (despite the fact that those courses are of interest), and decide to drop them and take a lower-level, lower-risk (and lower-interest) course instead. They find themselves frustrated and disappointed when they read the new course description, it's really not as interesting of a topic, and sounds a bit boring-- but when they think of switching back to the first course choice they falter, and cannot seem to build up the confidence.



The Mental rehearsal technique would have them vividly imagine what it might be like to be in this higher-level course. During this rehearsal, they'd feel anxious, and re-experience all the worry associated with risk-taking (taking on too much, not being ready, falling behind, hurting their GPA, affecting their other studio courses). Using meditative techniques and other coping strategies they've practiced, they slow their breathing, and focus their mind.





Then, in this more calm state they can think through the actual (imagined) situation more effectively: They imagine the content or topic of the course, and how exciting and appealing that is to them; They practice self-talk which is encouraging and based in their love for Art History that they've developed since coming to NSCAD, and remind themselves that when they are engaged and interested in a topic it really doesn't feel like "work" in the same way.

As they start to feel empowered by the level of excitement and intrigue welling up in them, they vividly imagine the classroom, their peers, and their professor, and the feeling of being surrounded by those with overlapping interests and widely varied perspectives. They begin to feel that this higher-level course is exactly where they need to be; Vividly imagining the end of the semester and feeling that sense of satisfaction when you hand in a final paper you are confident in.

After going through this process of Mental Rehearsal several times, the student decides to opt back into the class in question.

They feel confident that not only will they feel more engaged, but also that they are ready, and excited because they have gone through the imagined motions, and they know that they can handle the various outcomes.



A close-up photograph of a crumpled blue paper ball resting on a sketchbook page. The page is filled with various hand-drawn sketches, including a large oval shape with horizontal lines, a small square with a cross, and the word "What?" written in cursive. A black pen is visible on the right side of the page. The background is slightly blurred, showing the spiral binding of the sketchbook.

Why does it work? &
How is it done?

The background of the slide is a photograph of a crumpled piece of paper. On the paper, there are faint, hand-drawn sketches and some handwritten text. One sketch appears to be a simple face or figure. Another sketch shows a rectangular box with a cross inside. At the bottom, the word "What" is partially visible in handwriting. The entire image is overlaid with a semi-transparent blue filter.

Mental Rehearsal works in our brains creating neural pathways and muscle memory.

The distinction between mental and physical is not so easy to delineate.

Cognitive sciences have found that physical action is partly mental; and mental actions are partly physical.

This functional equivalence means that the same neural networks used in visual (and other sensory) processing (ie when we actually see or feel something) are activated when we engage in visualization or mental rehearsal processes.



So, again...

**“The human mind
can not distinguish
between reality and
non-reality.”**

What does this mean? It means that we can put our imagination to work.

By rehearsing an action, situation or experience, we can prepare ourselves mentally by *actually* activating and building neural pathways which will be there for us when we approach the actual task in the real world.

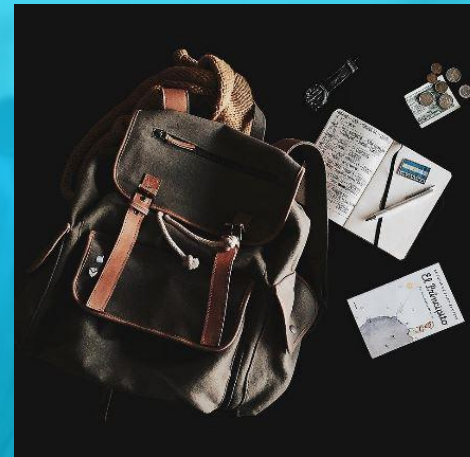
By visualizing an act, and responding to it before hand, we are creating muscle memory for our brains.

A couple notes to remember....

1) Mental rehearsal actually does make real, measurable changes to performance

2) The most important part of visualizing is engaging all of your senses to make it feel as real and immersive as possible

3) It's important to do this multiple times for best results



Some Additional Notes from our Conversation

Important to remember there are two distinct types of visualization you can use to support your mental wellbeing. Both are useful for different goals/situations:

- One of them is the “happy place” variety—this method can be used to help calm yourself down in times of stress, anxiety, or sadness, and involves visualizing a scene that is free of negative feelings. You will usually pick a scene like a walk in the woods, sitting on a beach, having tea in a cozy cabin, etc. Something that is completely removed from your general day-to-day and can be a kind of meditative mental escape.
- The other is the “mental rehearsal” variety, which is what we focused on in this presentation. Rather than *escaping* from feelings of stress, this method is used to *prepare* yourself for a stressful or anxiety provoking situation. Important to remember that for this to be effective, you are NOT just visualizing everything going perfectly and feeling wonderful. You are actively visualizing the stressful aspects of the situation so you can practice how you are going to manage those feelings and physical responses. (If you’re giving a presentation and you’re nervous about public speaking you want to really vividly imagine how it will feel when your heart is pounding, how it will feel when your hands are sweating, how it will feel when you are up at the front of the room at everyone is staring at you, etc.)

Another method we talked about was doing “best case/worst case/most realistic outcome” visualizations. This can be a helpful tool for managing anxiety and counteracting a tendency to get hung up on worrying about the worst case scenario:

- Use visualization to imagine the worst case scenario and make a plan for how you would handle it. This helps to alleviate stress by making sure that you feel prepared with a plan in case things do go badly.
- Now do the opposite and visualize the best possible outcome! This helps counteract your worries and negative thoughts by reminding you that great outcomes are also totally possible.
- Finally, use some rational, objective thinking to try and visualize what the most realistically likely situation is—usually things do not actually end up being worst case

or best case, but somewhere pretty mundane and in between. This helps to balance out your thoughts with a little bit of objectivity, and can help you to feel more grounded in reality and less mentally caught up in worst-case-scenario catastrophizing.

- By using this technique, you have planned for the worst, hoped for the best, and balanced yourself out by reminding yourself of what is actually most realistic.

Visualization techniques are a great way to use an active imagination to your advantage—and a lot of us, as artsy people, have very active imaginations! The presentation talked about how our brains are really not great at distinguishing the real from the not-real; this is why scary movies make our heart rates go up, and sad movies make us cry, etc. I (Hannah) always felt like this was kind of a “weakness”—I can’t engage with lots of types of fiction because my brain really can’t compartmentalize that it is not real. Scary and sad things are often too much for me, and I’ve been poked fun at all my life for being so sensitive to fiction. Learning about visualization felt really empowering because it is a way that I can actually use that to my advantage, and now I can see that quality as a strength! Having a strong imagination and a brain that easily interprets the imaginary as feeling very real allows you to use mental rehearsal techniques in a very powerful and effective way. Imagination as a mental-wellness superpower, it’s pretty cool.

On the following pages are a couple of examples of some visualization scripts. The first one is of the “happy place” variety, imagining a trip to the beach. The second one is the “preparing for a stressful situation” type, and imagines some of the anxious feelings that might come up when doing public speaking. Hopefully this is a helpful illustration of the different ways you can construct a visualization, and how this technique can be used in different ways for different goals. Also notice how they focus a lot on sensory descriptions—there are lots of feelings, sounds, smells, etc. For a really effective visualization or mental rehearsal, you want to fill in as much of that sensory experience as possible, this is what allows your brain to really experience the visualization as feeling “real.” Try them out and you may be surprised by how much you actually feel like you can really smell the smells and hear the sounds!

Visualization Scripts

Practice visualization skills using these examples. You can read them yourself, or try reading aloud with a friend.

A Trip to the Beach

You get out of the car and stretch, feeling the gentle pull of the muscles in the backs of your legs. The ocean breeze runs through your hair, bringing with it the scent of saltwater and seaweed. As you walk down from the parking lot you catch sight of the rocks and sand at the bottom of the path, and begin to hear the gentle lap of waves on the shore. As you arrive on the beach, you look around for a good spot to sit. There is a narrow strip of sand between the driftwood and dried kelp littering the tide line and the rockier areas further up the beach. The seagulls scream incessantly as you lay out your towel and sit down, pushing your toes into the warm grittiness of the sand. The sun is hot on your skin, and the rhythmic sound of the ocean melts into the background, punctuated only by the shrill screams of delight as a group of children run back from the cold waves lapping their feet. You take a container out of your bag, and your fingertips hurt as you wrestle with the stiff lid of your stubborn Tupperware. Sighing with relief as you pry it open, you take out a thick slice of bright pink watermelon to enjoy. You taste the watermelon in all its summery sweetness as the juice runs over your chin and gathers in sticky pools inside your elbows. It tastes light and nostalgic, and the smell of the watermelon blends with the brackish musk of the receding tide.

Giving a Presentation

You get up from your seat and walk to the front of the room. Your palms feel damp, the lights are a bit too bright in your eyes. You can smell the musty scent of the old carpeting mingled with the floral notes of your professor's perfume as they step aside for you to give your presentation. You drop your note cards and feel heat in your face as you bend to pick them up, the scratchy carpeting brushing your fingertips. Your heart is beating quickly and you can feel it uncomfortably in your chest, however you take two slow deep breaths, feeling your lungs fill with air and your nerves calm. You can hear the shuffling of your classmates fidgeting with their pens and notebooks. You take two more deep breaths. Beginning your presentation you feel nervous at first, but your classmates seem interested in what you have to say, and you see your professor nod at you encouragingly. You stumble over a couple of words, but remember to pause and breathe when you need to. Before you know it, you've read your last note card. You breathe a sigh of relief, your classmates clap, and you slide happily back down into the smooth plastic of your chair, wiping your hands against the worn fabric of your jeans.