



What is a growth mindset teaching?

Dr. Blanka Tacer

Dr. Ana Arzenšek

Growth Mindset Assessment topics

- 1) Providing intrinsic additionally to extrinsic rewards
- 2) Students creating their own tests
- 3) Working with students to eliminate the fear of guessing and help them become comfortable to start again
- 4) Setting high goals and staying persistent in evaluating them
- 5) ...

Growth Mindset Assessment

- Students sometimes possess intrinsic motivation in which they receive pleasure from the learning process itself **without the need for a reward** (Gottfried, 1985)
- Cognitive evaluation theory (Deci, 1975): external (extrinsic) reward decreases internal (intrinsic) motivation
- Rewards and punishments can induce negative thinking or give rise to cheating
- **Example 1:** after teaching them a big bundle of topics, give them an assignment to try it by themselves in practice without providing a grade (however, GM feedback is a must!), e.g. leading a short counselling conversation

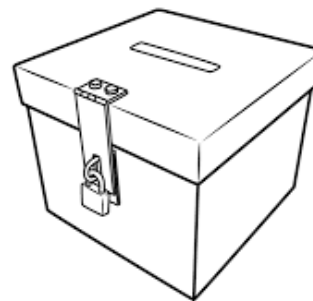
Growth Mindset Assessment

- **Example 2:** replace type of extrinsic reward (descriptive feedback is better than providing a grade/extra points), e.g. in mentoring



Growth Mindset Assessment

- Students enjoy the challenge of **creating their own tests**
- Motivation increases when students are given more control, and this increased motivation can, in turn, promote a growth mindset (Howard and Whitaker, 2011)
- **Example 1:** let students prepare questions (1 per student) for the last lecture prior to exam (option: they can write them down and put them in a box. Then they draw one paper from the box and answer the question). You can include some of the best questions in the exam.



Growth Mindset Assessment

- **Example 2:** Give students choice of assignment form. E.g. give them the opportunity to present their work in different ways; for example, in a blog, a video presentation, or a booklet. E.g. let them prepare an event instead of teaching them about organization
- **Example 3:** let students prepare a mock exam. Together with them decide about the form of questions (essay, multiple choice,...).

Growth Mindset Assessment

- **Work with students** to eliminate the fear of guessing and help them become comfortable starting again if their process is not progressing (Duckworth 2016)
- **Example 1:** prepare a mock exam without assessing it. Students need to write it and bring it with them to the class. Let them read their answers at loud and add points/ ideas of other students. Help students with additional explanation if they missed a point or smth was not clear



Growth Mindset Assessment

- **Example 2:** evaluate student assignments providing them with constructive descriptive feedback. Let them rewrite and resubmit their papers later on before providing a final grade

VERSION 1

•FEEDBACK 1

VERSION 3

•FEEDBACK 2

VERSION 3

•FEEDBACK 3

- **Example 3:** appraise for trying, not for correct answers (e.g. positive feedback for participating in a discussion even if the idea is not correct)

Growth Mindset Assessment

- **Set high goals** and be clear in how they are going to be assessed. Help students in overcoming the obstacles in achieving high goals
- Be persistent in evaluating the goals (do not accept lower standards)
- Students possess pride in their accomplishment of a difficult task
- **Example 1:** After facing a difficult task, you can encourage students to think deeply and communicate to them that they can achieve at a high level, but it takes persistence and character. It requires an understanding that even if success does not come immediately, they must keep trying (Duckworth, 2016; Tough, 2012)

Growth Mindset Assessment

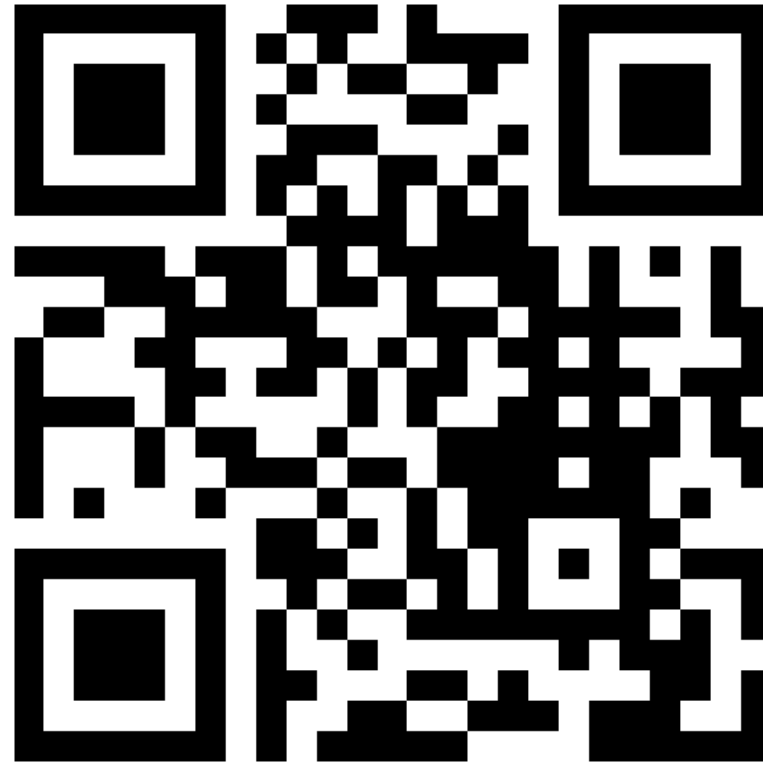
- **Example 2:** provide points for intermediate steps students make in completing an assignment (e.g. $3p+4p+3p$)
- **Example 3:** make sure you are available for your students' questions on your contact hours. But do not do the work instead of them.



- Your own GM assessment examples?

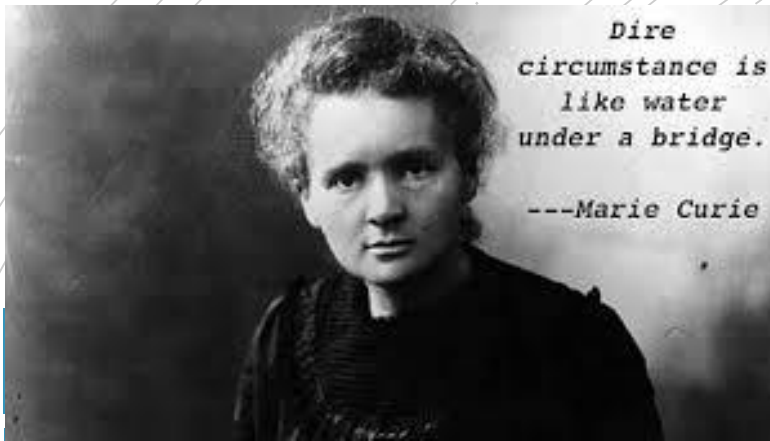
<https://www.menti.com/fkssybsvly>

Growth Mindset
Assessment



Growth Mindset Reflection

- 1) Discuss about students'/ other people past experience with overcoming a struggle
- 2) Spend time for personal reflection and storytelling to identify mindsets in practice
- 3) Use charting to reflect students' progress in goal acquisition
- 4) Use experiments and other experiential interventions to reflect consequences of mindsets
- 5) ...



Growth Mindset Reflection



- **Discuss** about students'/ other people past experience with overcoming a struggle
 - **Example 1:** watch videos about people who failed numerous times before they achieved the thing that made them famous. Then discuss the concepts related to growth mindset and pinpoint the qualities that allowed those people to become famous
 - **Example 2:** share your own/ famous people mistakes with students to eliminate fear of failure (e.g. failing an exam)

Growth Mindset Reflection

- **Spend time for personal reflection and storytelling** to identify mindsets in practice
- **Example 1:** Spend time on discussing what it means to have tenacity, be persistent, and possess resilience. Share personal experiences when you have had or have not had grit. Let students share

Growth Mindset Reflection

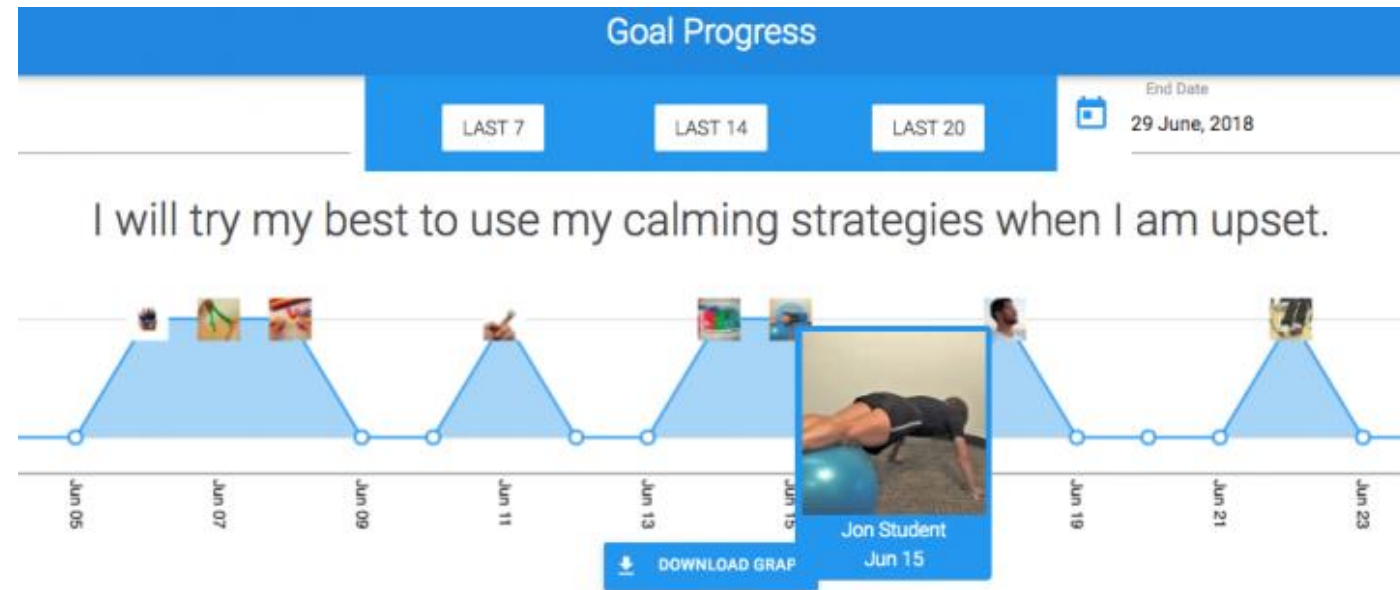
- **Example 2:** Give your students a reflection assignment. This will help them consolidate their learning (e.g. reflection about students' communication behaviour)



- **Example 3:** Ask them to reflect on past times when they have learned to overcome a struggle, reminding them that they are capable of doing so observing their peers deal with struggle or noting differences among their peers and reporting in groups

Growth Mindset Reflection

- **Use charting** to reflect students' progress in goal acquisition
- **Example 1:** a professor requires her students to set quarterly goals. They collect data from students' progress with charts and journal reflections. As students learn and review, they are directed to reflect on their goals and evaluate their progress (Robinson, 2017)



Growth Mindset Reflection

- **Use experiments** and other experiential interventions to reflect consequences of mindsets
- **Example 1: Learned helplessness experiment**
- <https://www.youtube.com/watch?v=gFmFOmprTt0>



Growth Mindset Reflection

- In this 5 minutes experiment, the students developed a belief in their innate ability to achieve goals
- Applicable to all sorts of situations
- Perceived absence of control over the outcome of a situation can lead to clinical depression and related mental illnesses
- Perceived absence of control over the outcome is analogous to fixed mindset

Growth Mindset Reflection

- Your own GM reflection examples?
- <https://www.menti.com/fkssybsvly>



The Nature of Brains and Intelligence

- 1) **Mind how you think & talk about intelligence and learning**
- 2) **Introduce students how our brain works, how we learn, fixed and growth mindset**
- 3) **Teach students about the evolving nature of science and information**
- 4) **...**

The Nature of Brains and Intelligence

- **Mind how you think & talk about intelligence and learning**
- Intelligence is a common topic in psychology courses, yet a recent analysis showed that 79% of the most popular introductory psychology textbooks contained inaccurate statements or logical fallacies about intelligence (Warne, Astle, & Hill, 2018).
- <https://padlet.com/SkupinaPrimera/gm>

The Nature of Brains and Intelligence

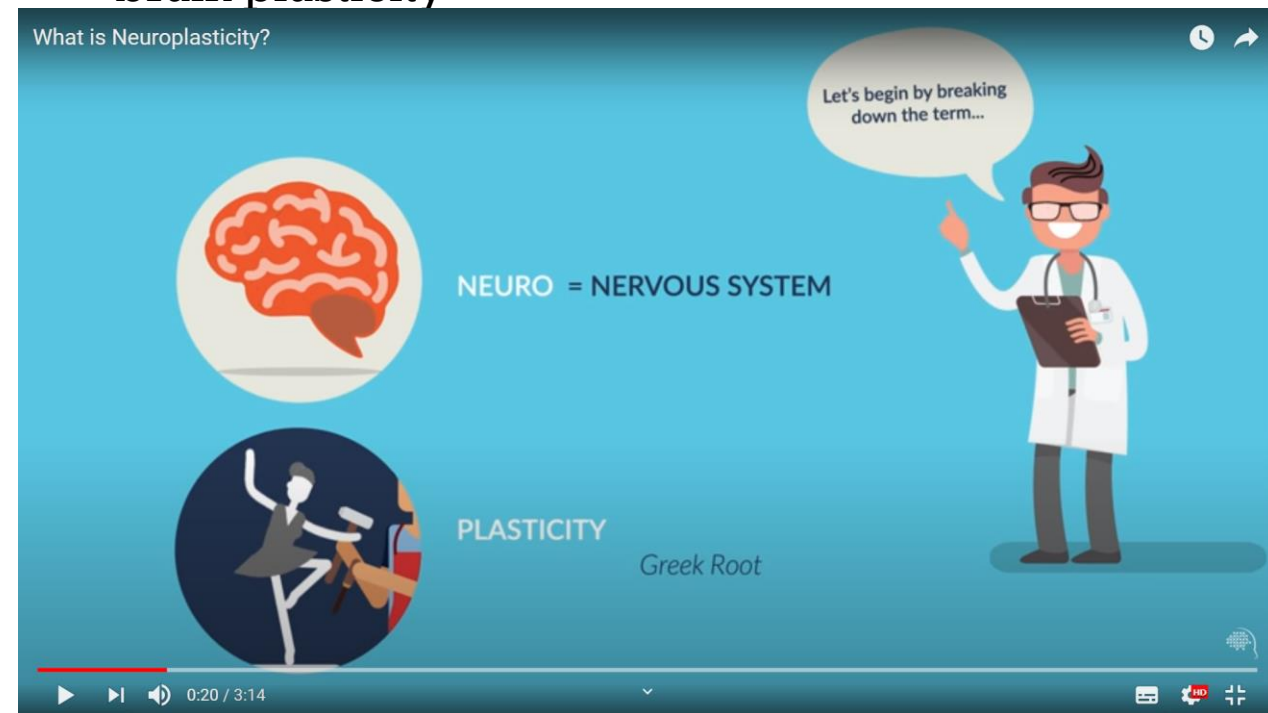
- 1. You can't change your intelligence very much*
- 2. All people, unless they have a brain injury or birth deformity, are capable of the same amount of learning.*
- 3. You can learn new things, but you can't really change how intelligent/smart you are.*
- 4. An important reason why kids should do their school work is so they can learn new things*
- 5. People who are very smart do not need to try hard.*

(source: Mindset Quiz: Dweck, C.S. (2006). *Mindset: The new psychology of success*. New York House Inc.)

The Nature of Brains and Intelligence

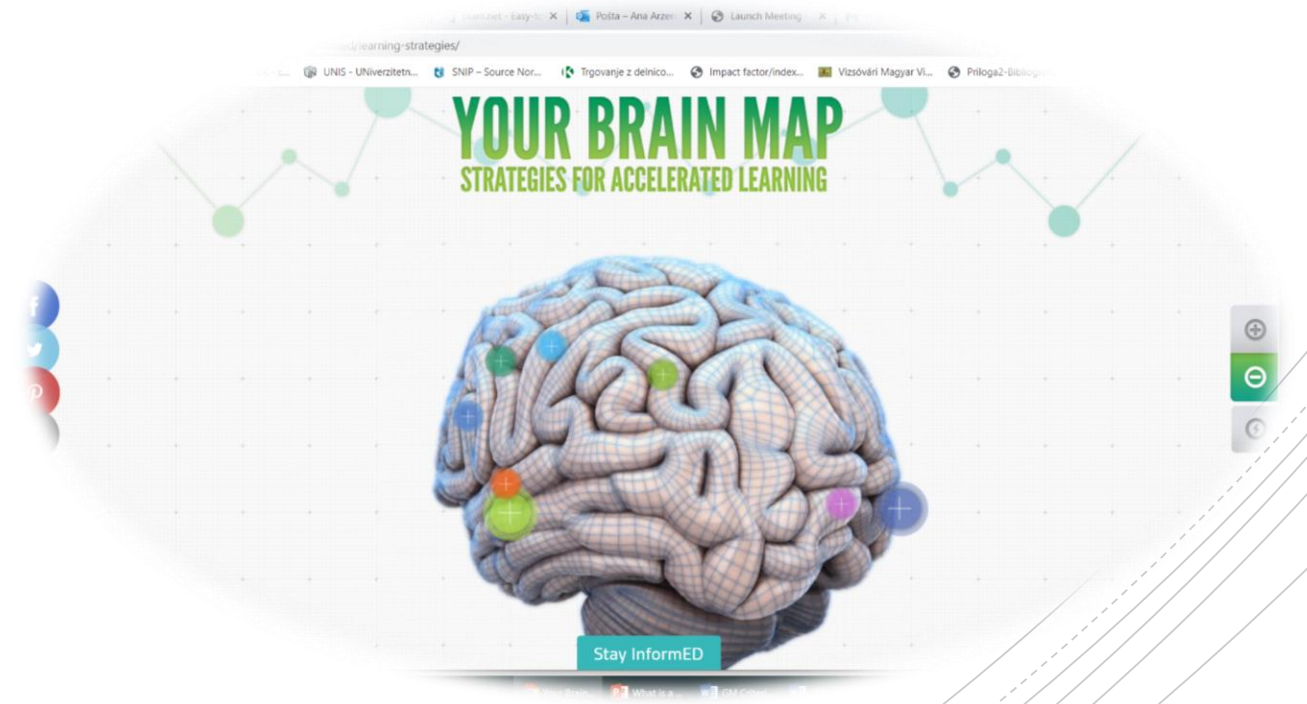
- <https://www.youtube.com/watch?v=kWIagHUqD8A>

- **Introduce students how our brain works, how we learn, fixed and growth mindset**
- Students become more interested in learning when they find out they can get smarter by rewiring their brains through study and practice
- **Example 1:** Show students a video about brain plasticity

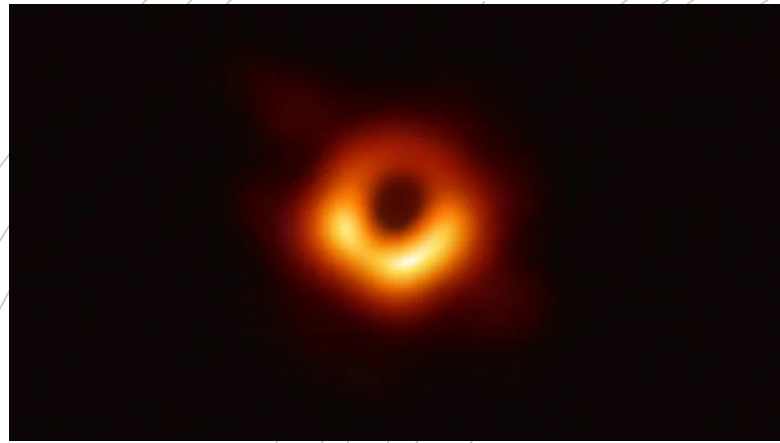


The Nature of Brains and Intelligence

- Mindset interventions may be more influential if they integrate **information about brain plasticity in adulthood**
- **Example 2:** 3-D brain map: Students can click on various parts of the model brain to learn about different structures and how they function. The brain map also includes case studies and strategies for accelerating learning



- <http://www.opencolleges.edu.au/informed/learning-strategies/>



The Nature of Brains and Intelligence

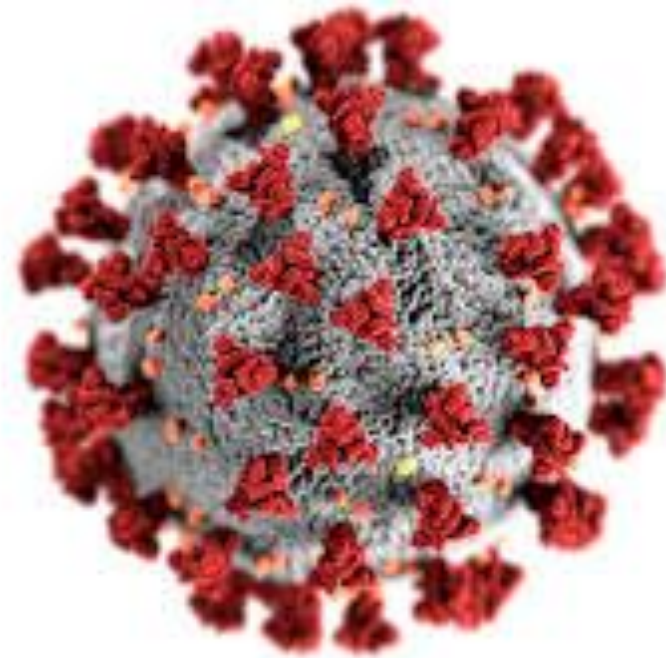
(source: <https://www.history.com/news/black-holes-albert-einstein-theory-relativity-space-time>)

Teach students about the **evolving nature of science and information**

- **Example 1:**
 - **1916:** Albert Einstein first predicted the existence of black holes in 1916, with his general theory of relativity.
 - **1939:** The concept that explains black holes was so radical, in fact, that Einstein, himself, had strong misgivings. He concluded in a 1939 paper in the Annals of Mathematics that the idea was “not convincing” and the phenomena did not exist “in the real world.”
 - **2019:** The first image of the shadow of the black hole in the center of M87 taken with the Event Horizon Telescope

The Nature of Brains and Intelligence

- **Example 2:** discuss recent events (e.g. development of COVID-19 vaccine, spread of fakenews regarding COVID-19, rise and spread of QAnon & other conspiracy theories,...) or find examples from your own discipline in order to discuss evolving nature of science and information



See Limeri et al. (2020) in Gdrive for broader coverage of the topic: „*Growing a growth mindset: characterizing how and why undergraduate students' mindsets change*“