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Running head: INCREASING GROWTH MINDSETS IN RURAL ADOLESCENTS

Increasing Growth Mindsets in Rural Adolescents

Jessica A. Hernandez

A Capstone project for the Bachelor of Arts in Human Development and Family Studies

California State University, Monterey Bay

Increasing Growth Mindsets in Rural Adolescents

Introduction

Individuals who have fixed mindsets may be pessimistic, lack self-esteem, and have a poor self-image because they believe that their abilities are fixed and cannot be changed. Many adolescents who grow up in small, rural, isolated areas may develop a fixed mindset because of few opportunities in their immediate environment and little change or progress evident in their communities. In order to address the potential development of fixed mindsets, I created a two-day lesson on cultivating growth versus fixed mindsets for high school juniors at Needles High School in Needles, California.

Needs Statement

Mindsets are built by many different beliefs regarding the flexibility or fixedness of personal qualities, such as introversion or intelligence (Mrazek et al., 2018). A growth mindset is a belief that attributes, such as intelligence, are changeable, while a fixed mindset is an opposite belief (Schroder et al., 2017). Growth mindsets are typically associated with the perception of effort as valuable rather than a rigorous task (Mrazek et al., 2018). Students who have growth mindsets of intelligence are often more adaptive when it comes to failure, whereas those who have fixed mindsets can start to feel helpless and disengage (Dweck & Leggett, 1988). As mindsets concerning one aspect usually leak into others, these beliefs can affect more than just academic performance. When being compared to growth mindsets, fixed mindsets of personal traits can foreshadow higher anxiety levels in adolescents (Romero, Master, Paunesku, Dweck, & Gross, 2014). By supporting the idea that personal attributes are not rigid and inflexible,

developing a growth mindset can be less difficult and make confronting stressors second nature rather than an anxiety inducing task.

Adolescence is a huge social, physical and mental transition, where relationships and personal identity can be unstable. Schleider and Weisz (2018) found that a 30-minute intervention teaching growth mindset of personality decreased internalizing problems, such as anxiety, and increased perceived behavioral control in adolescents across nine months. This finding is important because it shows that intervention, even a brief one, can make a difference in adolescent lives.

For this project, I will be giving a presentation on growth vs fixed mindsets to a class of twenty high school juniors at Needles High School in Needles, California. I will start the project by gauging their knowledge of the topic by having them respond to two fixed-mindset statements. Then, I will start the presentation teaching the definitions of fixed and growth mindsets and providing different examples of fixed and growth statements. Once they have learned a bit more about the topic, I want to teach more about growth mindsets and how they can influence achievement. Lastly, with their new perspective, I will then have them set two goals, one personal and one school-related goal, using growth mindset statements.

Theory Application

Erik Erikson, in his Psychosocial Stages of Development theory, suggested that adolescents are in a stage of “Identity vs. Role Confusion.” During this stage, adolescents are exploring many different aspects of their lives while trying to find a sense of self and personal identity. They are navigating through their own values, beliefs, personality traits and experiences to answer the complication question of “Who am I?” As adolescents are maneuvering through

their own identity development, some type of guidance may be helpful in facilitating positive development. As part of the process of identity development, adolescents are supposed to explore and then commit to an identity. If they fail to fully explore and commit, there can be negative outcomes such as being unable to adapt during distress in adulthood.

One aspect of exploring and committing to one's identity may be how one views his or her abilities or traits. Some people may believe that their abilities are fixed and cannot be changed. Others may believe that characteristics can change with effort. Dweck (1988) described these perceptions of one's abilities as "mindset." Individuals who believe that traits and abilities cannot change have what Dweck called a fixed mindset (1988). As a result of a fixed mindset, individuals can see their failures as concrete and as a result, become less adaptive when hardships occur. In contrast, individuals who believe that traits and abilities can change with effort have a growth mindset. Having a growth mindset is beneficial because when traits and abilities are seen as constantly developing, individuals can have an easier time seeing challenges as chances to grow rather than roadblocks. Since adolescents are still figuring out their identities, they may believe that certain aspects are fixed and other aspects may be more growth-oriented. Therefore, adolescents may not be able to fully develop their identities if certain aspects are perceived as fixed. This is important because if they are stuck with a fixed mindset, they may not realize their potential in growth and in turn have role confusion. Providing instruction on fixed and growth mindsets may be particularly useful for adolescents whose notion of themselves--their identity--is not completely resolved yet.

Consideration of Diversity

My project will be facilitated at Needles High School in Needles, California in a junior level AP English class. According to the School Accountability Report Card, SARC, during the 2017-2018 school year the population of 238 students that consisted of 2.1% African American, 12.6% Native American, 26.5% Hispanic/Latino, and 53.8% White students, with 64.3% of the student body being socioeconomically disadvantaged (California Department of Education, 2018). The ethnic composition of my participants is likely to reflect the ethnic and economic diversity of the school. Since it will be an upper division, high school level class, this project may not be applicable to younger adolescents, such as middle school age students, because they are not as far along in their identity development. Lastly, because I will be facilitating this lesson in English, each student will have to be proficient in English to be able to benefit fully from the activities.

Learning Outcomes

By the end of this project students will:

1. differentiate between growth versus fixed mindset statements.
2. identify fixed mindset statements they use on themselves.
3. create two goals based on growth mindset statements, one school-related goal, and one personal goal.

Method

Day 1

The first thing I did on day one was introduce myself and explain that I was there to facilitate a lesson for my senior capstone project. After introducing myself, I started my

presentation. See Appendix A. I introduced the topic of creating growth mindsets by asking if they agreed or disagreed with statements that portrayed fixed mindset ideals. I then explained what both growth and fixed mindsets were, leading into how mindset can influence achievement. After discussing how growth mindsets lead to higher achievement and fixed mindsets lead to lower achievement, I gave some examples of growth and fixed mindset statements. When I was done explaining the examples, I had the students participate in the first activity. They got into groups of three to five students and came up with their own fixed mindset statements. Once each group was done, I asked them to write their fixed mindset statements on the board. Then, they proceeded to change the fixed mindset statements into growth mindset statements. After that activity, I continued the presentation with some good news. I explained how mindset can change, the benefits of changing your mindset and what they should focus on in order to develop a growth mindset. Once I finished my presentation, I left them with a challenge. I ended the class by asking them to challenge themselves to point out their own fixed mindset statements they use on themselves and what they hear others say within the next 24 hours.

Day 2

To start Day 2, I asked what they found from the previous day's challenge. After they discussed what they heard, I started a second presentation for review of the mindset concepts. See Appendix B. I then reviewed the definitions for both growth and fixed mindsets and explained how responses to failure would look based on each mindset. Once I finished reviewing the material, I presented them with an opportunity to exercise their new growth mindsets with brainteasers and matchstick puzzles. See Appendices C and D. After giving them about ten minutes to complete the puzzles, they discussed the ways they were able to stay motivated while

trying to complete this difficult task. Once that discussion was over, I handed out post-it notes and asked them to create one academic goal and one personal goal based on their new growth mindset. When they finished writing their goals, I ended the presentation with some important takeaways and handed out cupcakes to celebrate their new mindsets.

Results

Learning Outcome 1

Learning outcome 1 was that students would be able to differentiate between growth and fixed mindset statements. I believe that this learning outcome was met. The first activity required them to think of a fixed mindset statement they have said or heard and provide an example. Once the examples were provided, I worked with them to change the sentences into growth mindset statements. By asking them to help me change the fixed mindset statements, they were able to grasp phrases that supported a growth mindset. In addition to this, as I was writing on the board I misspelled a word and said, “Wow, I cannot spell.” The students immediately called me out and changed my statement to “I need to work on my spelling.” Based off the examples they gave, the transformation of the examples, and the discussion, the students were able to differentiate between growth and fixed mindset statements. See Table 1 for results.

Learning Outcome 2

Learning outcome 2 was that students would be able to identify fixed mindset statements they use on themselves. I believe that this learning outcome was met. At the end of day one, I gave the students a challenge of calling attention to the fixed mindset statements they say themselves or hear others say within the next 24 hours. On day two, they were all able to tell me one phrase they heard the day before. Many of the students were able to identify more than one

statement they used and heard others say as well. Some examples of what were said are, “C’s get degrees”, “writing is too hard” and “pre-calc is just too complicated.” Based on the results from the discussion, the students were able to identify fixed mindset statements they use on themselves. See Table 2 for results.

Learning Outcome 3

Learning outcome 3 was that students would create two goals based on a growth mindset, one personal and one academic goal. I believe that this learning outcome was partially met. For the last activity on day two, I had the student write out their goals on post-it notes and display them on the whiteboard. After they were finished, I took pictures of all the notes and analyzed their statements. After evaluating all of the notes, I found that 12 students wrote out goals while applying the growth mindset concept, six applied the concept but did not write two goals and two students did not meet the objective at all. Some examples of correctly achieving the learning outcome were, “instead of saying I don’t have enough time for homework, I will work on time management” and “put more effort into training for cross-country.” An example of a student applying concept but not writing a goal is, “pre-calc is hard but just remember cooking lemon meringue pie is harder.” Though this is not a goal, it shows that the student understood the growth mindset concept because she was saying that if she could do something as difficult as cooking lemon meringue pie, she can do pre-calculus as well. Out of 20 students, 18 showed an understanding of the concept and wrote at least one goal. Based on the final interpretation of the students’ post-it notes, learning outcome 3 was partially met. See Table 3 for results.

Discussion

I believe this project was successful because though not all of my learning outcomes were completely met, the broad idea was understood by the participants at the end of the project. Throughout the two sessions, each student was engaged and eager to ask questions about the material. Because these students are in Erikson's stage of Identity vs. Role Confusion, I believe that this project allowed them to think about who they are and their abilities with a different perspective. They now know that their abilities, including their intelligence, are not fixed and failure is not permanent. Since adolescents are still figuring out their identities, it is important for them to have the tools necessary to maintain a growth mindset so that they do not see their identity as something that is definitive.

As for diversity, my project applied to everyone in the classroom. However, I made the assumption that each student desired to continue their education, and, although I discussed achievement as a whole, I mostly focused on academic achievement. If I were to do this project again, I would include more non-academic examples such as learning a sport or playing an instrument. In addition to having a more diverse set of examples, I would try to do one longer session instead of two short sessions. By the middle of the second lesson, the students seemed to be a bit exhausted of the material and were ready to be done. Lastly, I would most likely ask the teacher to withhold participation. During the lessons, she would add her input, and, while she was trying to be supportive of the material, it was not always accurate regarding the material.

Overall, I believe this project was successful. At the beginning of the first day, not one student knew what growth or fixed mindset was, and, by the end of the second day, they were all able to identify both types of statements. The students left with new knowledge of growth versus

fixed mindsets, the benefits of having a growth mindset, and skills to turn their fixed mindset statements into growth statements.

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<https://doi.org/10.1037/0033-295X.95.2.256>
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- Schroder, S. H., Yalch, M. M., Dawood, S., Callahan, P. C., Donnellan, B. M., & Moser, S. J. (2017) Growth mindset of anxiety buffers the link between stressful life events and psychological distress and coping strategies. *Personality and Individual Differences*, *110*, 23–26. doi:10.1016/j.paid.2017.01.016.

*Table 1.**Activity #1 examples*

Fixed Mindset Examples	Growth Mindset changes
I don't have enough time to do anything.	In the past, I have had trouble managing my time.
I can't remember anything so I'm just not going to study.	I will try harder to write notes in class so I can study better.
The referees were playing for the other team..	A lot of fouls were called, we should work on our defense more during practice.
Why try if I am never smart enough?	My intelligence can be improved with effort, that's why I need to keep trying.
I suck at writing and I will never be good at it.	The more I write, the better I will get.

*Table 2.**Fixed mindset statements from Day 1's challenge.*

Fixed mindset statements of students from Day 1's challenge
1. I can't write
2. I suck at math
3. I can't hit the ball
4. I am just not flexible enough
5. Writing is too hard
6. Pre-calc is just too complicated
7. I am not fast enough
8. She can do the cheer, but I can't.
9. I can't make this any better
10. I give up
11. I'll never swing fast enough
12. Biology isn't my thing
13. The notes are too high
14. I suck at spelling
15. I can't dive for the ball
16. I am never going to understand geometry
17. He's smarter than me
18. C's get degrees
19. I'm just an idiot

20. I don't have enough time

Table 3.

Students' post-it note goals.

	Life goal:	School goal:
Student 1	Even when times get tough you preserve. You're stronger than you know and smart than you think.	n/a
Student 2	I will make time to hang out with friends	Instead of saying I don't have enough time for homework, I will work on time management.
Student 3	n/a	I will use my growth mindset to be better at time management
Student 4	Put more effort into training for cross-country	Work hard to understand the concept of creative writing
Student 5	Make time to go running more often	Work hard to finish high school with a 4.0 GPA
Student 6	Always work hard and find the motivation to not give up	n/a
Student 7	n/a	Pre-calc is hard but just remember cooking lemon meringue pie is harder.
Student 8	n/a	Instead of thinking school is terrible, I will remember that I am fortunate to have an education
Student 9	n/a	Put more effort into my school work
Student 10	Make time to go to the gym	Make time for school work, put effort into not procrastinating
Student 11	n/a	Put effort into my homework, no missing assignments
Student 12	Work on time management for the	Work on time management for school

	gym	
Student 13	Put more effort in a baseball practice to score more in the games	Put more effort into school work to raise my grades
Student 14	Hit a few home runs in the games this season	Get good grades
Student 15	Practice harder outside of cheer practice	Use my growth mindset to work harder at math
Student 16	Put more effort into band practice to play trumpet next year	Do my school work to become a better student
Student 17	Try to be more social at school by talking to others more	Practice my bass more so I can be in Advanced band
Student 18	Work to get better every day	Think of homework as bettering myself rather than work
Student 19	Work harder to play baseball or football	Put more effort into time management
Student 20	n/a	Focus better in class

Appendix

Appendix A

Powerpoint on growth vs fixed mindset

Mindset and Achievement!

(You can do it!)



Let's Get Moving!



- You can learn new things, but you can't change your basic intelligence
- Your intelligence is something that you can't change very much.

Growth Mindset vs. Fixed Mindset



Fixed mindset

Intelligence is a fixed trait.
You can't change it.



Growth mindset

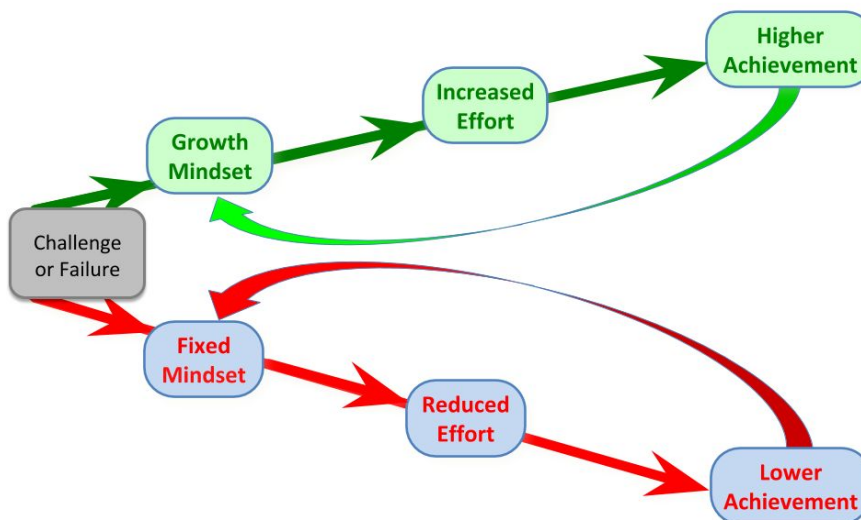
You can grow your intelligence through effort.

Growth Mindset and Achievement



- Decades of research show a powerful relationship between **mindset** and **achievement**.
- Students' beliefs about intelligence and learning impact:
 - Motivation
 - Academic behaviors (e.g., studying and seeking help)
 - Responses to challenges and setbacks
 - Academic achievement


Mindset Cycle



Fixed and Growth Mindset

Examples

FIXED	GROWTH
I can never keep my notes organized.	In the past, when I tried to keep my notes organized, I didn't have much success.
I just suck at math and I will never be good at it.	The harder I work, the better I will get.
We lost because the referees were playing for the other team.	A lot of fouls were called, we should work on our defense more during practice.

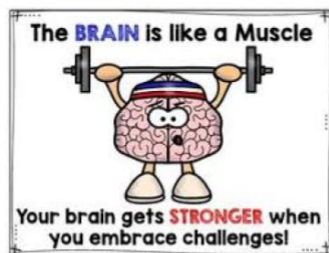
Can you think of some fixed mindset statements you've heard? 

1. Groups of 3-5
2. Every person come up with one example
3. Choose the best example out of the group
4. Once you've chosen your example, come write it on the board



Good News: Mindsets Can Change!

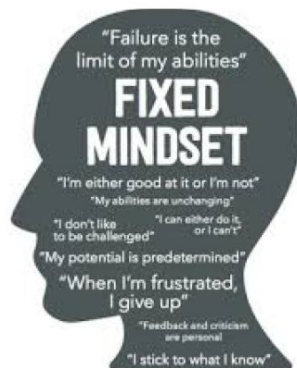
- Rigorous research also shows that mindsets can change
- When they are changed to have a Growth Mindset, *people do better*



To Have a Growth Mindset

Don't Focus On:

- Qualities commonly *interpreted* as stable, like talent or intelligence



To Have a Growth Mindset

Do Focus On:

- Effort and strategies used
“I tried a new way to solve this problem.”
- Abilities **improving** over time with practice
“I’ve been practicing and I can see it’s paying off.”
- Mistakes and being challenged as necessary part of learning
“I love mistakes because they’re an opportunity to learn – being challenged is when the brain grows most.”



Appendix B

Day 2, growth vs. fixed mindset presentation

Growth Mindset & Achievement Day 2



Growth Mindset vs. Fixed Mindset

Fixed mindset

Intelligence is a fixed trait.
You can't change it.



Growth mindset

You can grow your intelligence through effort.

Response to Failure

	Fixed mindset	Growth mindset
Goals?	Look Smart	Learn
Values effort?	No	Yes
Reaction to Failure?	Give up	Work Harder

Helpless

"I would spend less time on this subject from now on."

"I would try not to take this subject ever again."

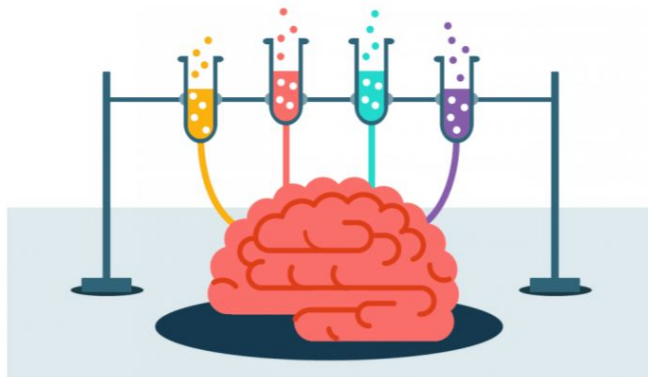
"I would try to cheat on the next test."

Resilient

"I would work harder in this class from now on."

"I would spend more time studying for the tests."

Activity Time!



Takeaways



- Failure is a bruise, not a tattoo
- Intelligence and talent are not fixed
- You can develop yourselves over time
- Developing a growth mindset will benefit you in the long run

Appendix C

Wordplay brain teasers used on Day 2

Riddles to Ponder

Can you figure out the answers to the riddles?

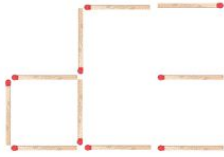
1. I come one in a minute,
Twice in a moment,
But never in a thousand years. 1. _____
2. I always run, but never walk.
I have a bed, but I don't sleep.
I have a mouth, but I don't eat. 2. _____
3. When you put this in a heavy
wooden box, the box will
become lighter. 3. _____
4. You hear my sound,
You feel me when I move,
But see me you never will. 4. _____
5. I follow you all day long,
But when the night or rain comes,
I am all gone. 5. _____
6. The more I dry,
The wetter I get. 6. _____
7. I am very heavy,
But backwards, I'm not. 7. _____
8. A cowboy rides into town on Friday.
He stays two days, then leaves on
Saturday. How can this be? 8. _____

Appendix D

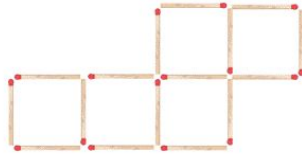
Matchstick puzzles given on Day 2

Matchstick Puzzles - #2

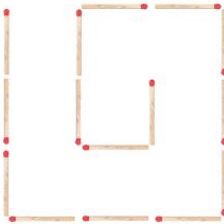
1. Move three matchsticks to make two squares.



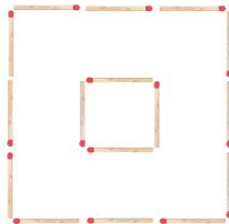
4. Move two matchsticks to make four squares.



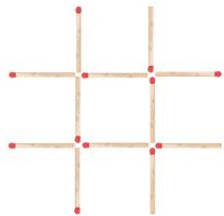
2. Move three matchsticks to make two squares.



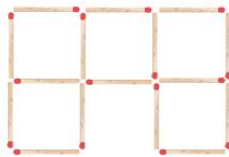
5. Move four matchsticks to make three squares.



3. Move three matchsticks to make three squares.



6. Move three matchsticks to make four squares.



© puzzles-to-print.com

Final capstone presentation: Increasing Growth Mindsets in Adolescents

Creating Growth Mindsets in Adolescents

...

Jessica Hernandez

The Need in Needles



Est. 1883

Population: 5,007



Growth vs Fixed Mindsets

Growth mindsets are more adaptive whereas fixed mindsets can start to feel helpless and disengage

Mindset influences:

- performance
- mental health
- coping strategies
- identity development

- One study showed that a 30 minute intervention teaching growth mindset decreased internalizing problems, such as anxiety (Schleider & Weisz, 2018)

Erikson's Stages of Development: Identity vs. Role Confusion

Identity:

Defining yourself

- Values
- Direction in life
- Commitments

Role confusion:

- Lack of direction and self-definition
- Unprepared for challenges of adulthood

The Project

- 2-day growth vs. fixed mindset lesson
- 40 min per class period (1 hour & 20 minutes)
- 20 high school juniors
- Needles High School
- Needles, CA



Learning Outcomes

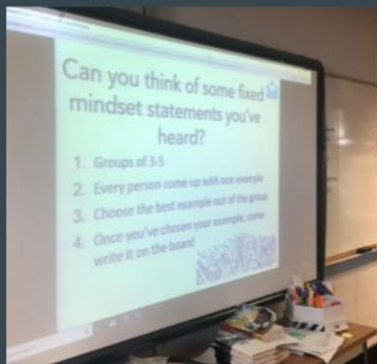
By the end of the project students will:

1. differentiate between growth versus fixed mindset statements
2. identify fixed mindset statements they use on themselves
3. create two goals based on growth mindset statements, one school-related goal and one personal goal

Day 1

Presentation teaching growth vs fixed mindsets and their relationship to achievement

Activity #1:



Day 1

Activity #1 examples:

Fixed Mindset Examples	Growth Mindset changes
I don't have enough time to do anything.	In the past, I have had trouble managing my time.
I can't remember anything so I'm just not going to study.	I will try harder to write notes in class so I can study better.
The referees were playing for the other team so we lost.	A lot of fouls were called, we should work on our defense more during practice.
Why try if I am never smart enough?	My intelligence can be improved with effort, that's why I need to keep trying.

Day 1

Based upon the results of the activity and the discussion:

- **LO #1:** Students will differentiate between growth versus fixed mindset statements. ➡ **Achieved**

Concluded Day 1 with giving them a challenge:

- Identify your own and others' fixed mindset statements

Day 2

Growth & fixed mindset review

Examples from Day 1's challenge:

- "I can't hit the ball."
- "I suck at writing."
- "Pre-calc is just too complicated."
- "The notes are too high."

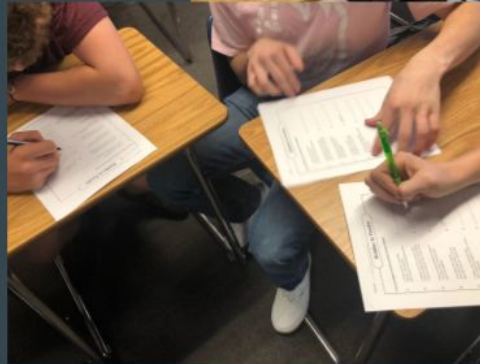
LO #2: Students will identify fixed mindset statements they use on themselves. ➡ **Achieved**

Day 2

Putting their growth mindsets into action.

Activity #2:

- Brain teasers
- Matchstick puzzles
- Discussion



Matchstick Puzzles - #2

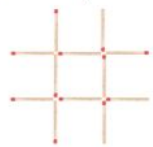
1. Move three matchsticks to make two squares.



2. Move three matchsticks to make two squares.



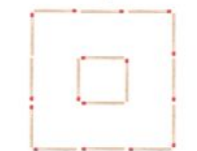
3. Move three matchsticks to make three squares.



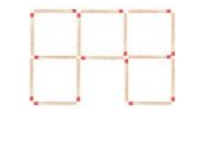
4. Move two matchsticks to make four squares.



5. Move four matchsticks to make three squares.



6. Move three matchsticks to make four squares.



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Riddles to Ponder

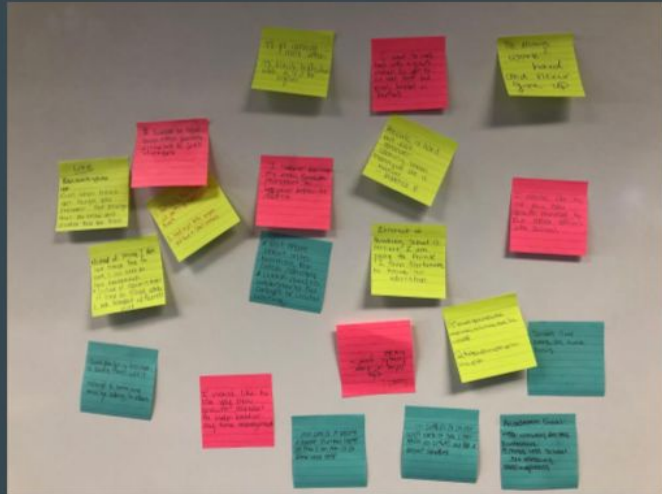
Can you figure out the answers to the riddles?

1. I come one in a minute,
Twice in a moment,
But never in a thousand years. 1. _____
2. I always run, but never walk,
I have a bed, but I don't sleep,
I have a mouth, but I don't eat. 2. _____
3. When you put this in a heavy
wooden box, the box will
become lighter. 3. _____
4. You hear my sound,
You feel me when I move,
But see me you never will. 4. _____
5. I follow you all day long,
But when the night or rain comes,
I am all gone. 5. _____
6. The more I dry,
The wetter I get. 6. _____
7. I am very heavy,
But backwards, I'm not. 7. _____
8. A cowboy rides into town on Friday,
He stays two days, then leaves on
Saturday. How can this be? 8. _____

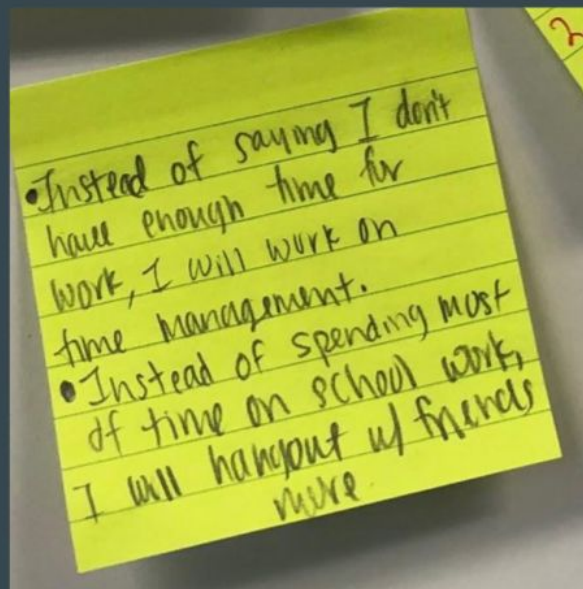
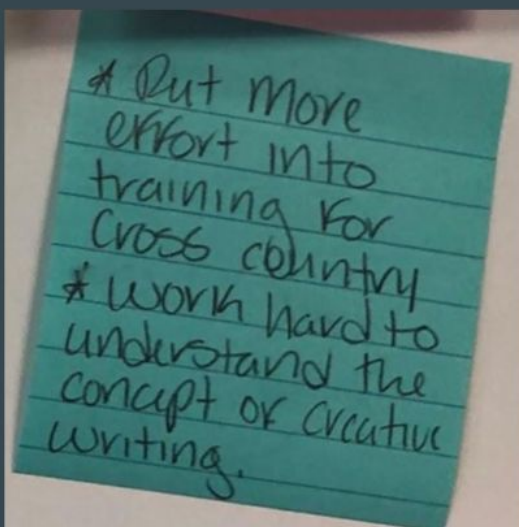
Day 2

Activity #3:

- Write two goals with your new growth mindset
- One school-related goal
- One personal goal



Day 2

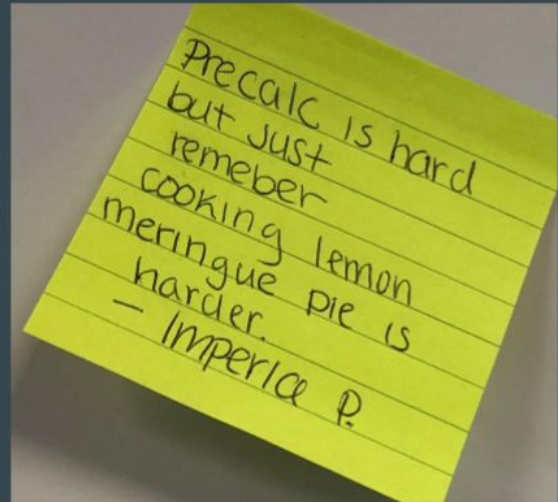


Day 2

Out of 20 students:

- 12 wrote goals with growth mindset
- 6 applied growth mindset concept
- 2 wrote nothing applicable

18 student students showed understanding



LO #3: Students will create two goals based on growth mindset statements, one school-related goal and one personal goal.

➔ Partially achieved

Discussion: Did it work?

Short answer? Yes.

They understood the big picture and were able to apply the concept.

Here's what I would change:

- One session instead of two
- Less teacher involvement



Thank you!

Questions?

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Jessica Hernandez

Creating Growth Mindsets in Adolescents