# CULTIVATING CREATIVE SCIENCE MINDS

*"In evaluating creativity. . . we would have to consider the person as a whole, within his or her context, co-developing over time. . ."*

*(Glaveanu, 2020)*

# SPEAKER




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## Current Research:

Creative ecosystems in classrooms

- Student perceptions
- Teacher moves

# THE WHY

# THE DEFINITION OF CREATIVITY IS TOO NARROW

Creativity is found in everyday thoughts and moments of discovery inspired by noticing the world around us.

# WHAT THE RESEARCH SAYS ABOUT THE FUTURE OF WORK

"Creative thinking is one of the top two desirable skills for employees."

"Creative skills such as mental flexibility and imagination will allow humans to operate in a technology-rich environment."

"We are still not seeing the kinds of imagination, creativity, and innovation emerging from K–12 schools that will help educators. . .produce leaders in applied and created knowledge."

# THE IMPACT OF AUTOMATION ON THE FUTURE OF WORK

| Business[4] | Cost of Facility | Jobs Created |
|---|---|---|
| Concrete | $103 million | 125 jobs |
| Pharmaceuticals | $110 million | 120 jobs |
| Automotive | $120 million | 400 jobs |
| **Data Center** | **$136 million** | **10 jobs** |

CRITICAL EMPLOYEE SKILLS FOR

# FUTURE OF WORK

Spontaneity

Collaboration

Empathy

Intuition

Imagination

Communication

CREATIVITY



STRUCTURED CURRICULUM AND TESTING

# SHOULD NOT SHACKLE CREATIVITY

RIGID

FORMULAIC

RESTRICTIVE

ONE RIGHT ANSWER

NARROW

# THE WHAT

HOW YOU CAN

# SUBVERT THE CURRICULUM

in

# 10 MINUTES

or less

TAKE A FEW MOMENTS TO BUILD

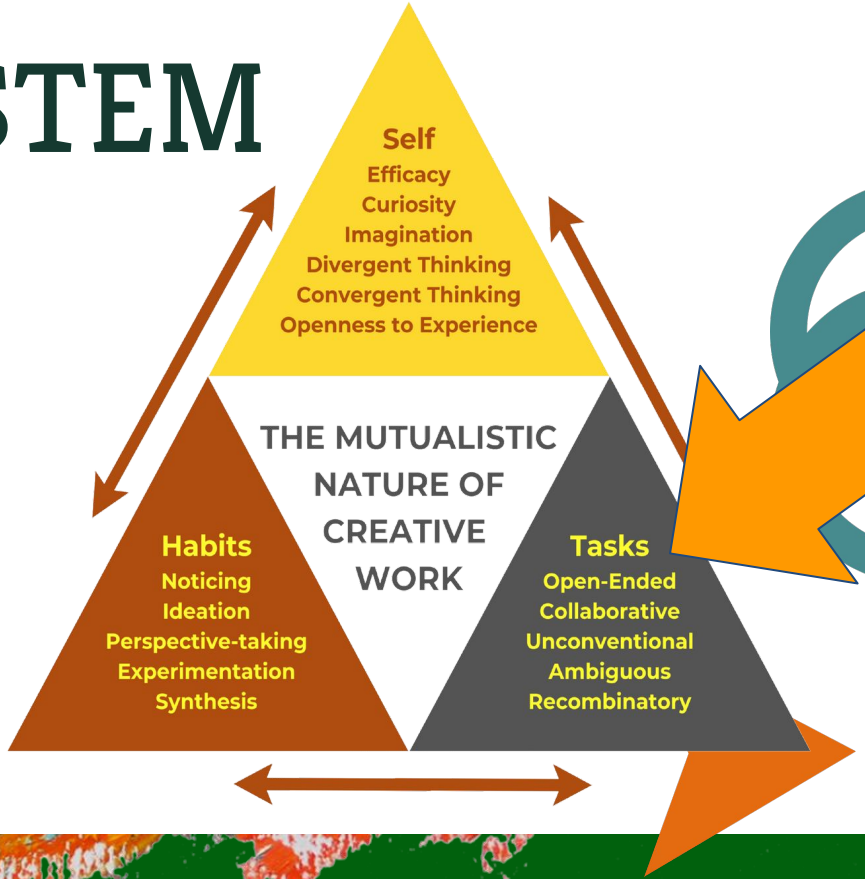
# CREATIVE FOUNDATIONS

- Strategies for nourishing creativity in the small moments of discovery.
- Capitalizing on the collaborative nature of creative tasks.
- Building relationships and collaborative problem-solving skills.

# ESTABLISH A CREATIVE ECOSYSTEM

**A creative classroom ecosystem grows from a symbiotic relationship that is cultivated by teacher moves:**

- **Intriguing tasks**
- **Stimulating questions**
- **Praising the process**



# THE HOW



# ENCOURAGE NOTICING

"...to see or become conscious of something or someone."

CAMBRIDGE DICTIONARY

CHALLENGE YOUR STUDENTS TO

# BUILD A BETTER BUG



ENCOURAGE

# RISK

In a group of 2 or 3 people, use the supplies you have been given and what you noticed to create a new species that could be classified as a bug. You have seven minutes.

WHILE YOUR HANDS ARE BUSY

# LET YOUR MIND FLOW

How will your bug move?

What will they eat?

What will you name them?

How would you describe them to someone else?

# LET'S TAKE A LOOK



Did you know that you can use your phone as a teacher cam for the classroom? It's a great way to share what kids are doing while they work.

ENCOURAGE

# QUESTIONS

Being curious means asking questions.

Crazy questions can lead to creative ideas.

Wild ideas lead to innovative solutions.

INSPIRE

# IMAGINATION

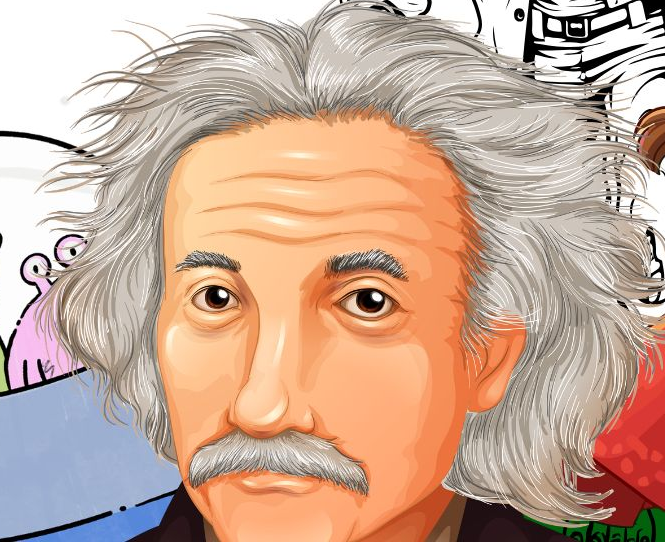
What do you wonder?













PRAISE

# THE PROCESS









A little bit
does a lot!






# PROMPT YOUR STUDENTS TO
# SELL IT QUICKLY



- **In five minutes, write an advertisement to sell carbon dioxide to a tree.**
- **In five minutes, write a help-wanted ad for the job of an ecosystem producer.**
- **In five minutes, write an advertisement to sell a sodium ion to a chlorine ion.**

INSPIRE YOUR STUDENTS TO MAKE THE ORDINARY

# EXTRAORDINARY











PROVOKE YOUR STUDENTS TO WRITE A

# ONE-MINUTE STORY












## FOUND CREATIVITY

# MEANINGFUL OBJECTS

"I swear if I get knocked off this desk one more time I will start hiding in kids lockers to scare them. I could be living on a freshly cut lawn right now, but I'm here on this desk. Here in a school, as if haven't already served my time. The next kid to start talking during silent reading will feel my wrath. Like, that's my decompression time you idiots! Some kids are so inconsiderate. I mean I guess some kids are fine, like that second hour, sweet baby angels they are."

*- 8th Grade ELA Student*

CREATIVE CONNECTIONS

# GAME OF QUOTES

Something you wouldn't want to overhear in a public restroom...

Lyrics to a sad song...

Something yelled by people in a zombie movie...

An excuse for not having your homework...

## CONSENSUS AND COLLABORATION

# NEW PLANET DEBATE

Due to extensive pollution, the Earth's ozone layer is significantly thinner. Days are getting hotter and hotter. In a couple of days, the Earth is going to be too hot for humans to survive. NASA has a rocket that will send people to a new planet, ensuring that human beings will not become extinct. The only problem is that the rocket can only take ten people.

Which ten people should be on the rocket to the new planet?

For more and to hear what other teachers are saying, tune in to this podcast series channel.




The slide deck and dozens of other thoughts about creativity may be found on this WordPress blog.

Dr. Sue
Susan Sobehrad

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