

CREATIVITY, INSPIRATION AND INNOVATION (CII)

Week 2: Divergent Thinking

STAGE 1: DESIRED RESULTS

Curriculum Frameworks & Standards

#1: 21st Century Student Expectations for Student Learning

Key Ideas

#2: 21st Century Student Expectation for Student Learning

Development of Creative Thinking and Problem Solving

ISTE 6a: Technology operations and concepts

Enduring Understandings

Quantity of unrestricted ideas breeds quality results.

Essential Questions

What is the purpose of brainstorming (Divergent Thinking) and how does it result in ideas worth pursuing?

Content

Student will know...

- the guidelines for divergent thinking
- techniques to apply for divergent thinking

Skills

Students will be able to...

- generate 50 ideas in 7 minutes (as determined by Osborn and Parnes) (*CEF 11*)
- apply various divergent thinking (brainstorming) strategies

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STAGE 2: ASSESSMENT EVIDENCE

FINAL ASSESSMENT for Week 2 - Divergent Thinking

The Extraordinaires Game

Students will use divergent thinking strategies while playing “The Extraordinaires Game” and apply the divergent thinking guidelines.

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STAGE 3: LEARNING ACTIVITIES

DAY 1

Lesson Objective:

Have fun with divergent thinking (brainstorming) and the process of generating ideas following the divergent thinking guidelines “Without Judgement” and “Quantity not Quality”.

Introduce the divergent thinking guidelines “Without Judgement” and “Quantity not Quality”.

Activities:

Warm-up: Have inspirational quotes taped around the room (at least one for each student). As students walk into the room have them select a quote that speaks to them. Have them write their quote in their journal.

Read Oh The Things You Can Think by Dr. Seuss

Primary: Review the Divergent thinking guidelines.

1. Defer Judgement
2. Go for quantity
3. Seek Wild and Crazy ideas
4. Combine and build

ACTIVITY 1 - Not a Stick (No Judgement)

Sit in a circle, and pass a stick around. Each participant says, "**Yes and** it's a _____". They pantomime its use and say what it is (tennis racket, golf club, microphone...). Remind student to not remark on each others ideas.

HINT-Keep going - around until you have over 50 ideas.

While still in the circle discuss what happened.

Read: Not a Stick by Antoinette Portis to the group.

ACTIVITY 2 - Please Don't _____ the Animals (Quantity not quality)

Divide class into small groups of three or four. Each group will be competing to create the biggest list. Make sure students are situated so that they can not hear the other groups. Give each group a long piece of wide register tape and a marker.

Prizes go to the group that generated the most ideas.

Wrap-up: Group discussion question: What stimulated your ideas?

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Resources:

- Inspirational quotes that inspire divergent thinking.
- A stick
- Book, Not a Stick by Antoinette Portis or Not a Box
- Book, Oh the Things You Can Think by Dr. Seuss
- Elmo for displaying the book to a large class
- 3" register tape / marker
- Cushions to sit in circle on the floor for reading.
- Have divergent thinking guidelines posted

Assessment:

PROMPT: Describe how the two activities stimulated ideas?

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DAY 2

Lesson Objective:

Review and practice the divergent thinking guideline “Quantity not Quality”. Introduce the concept of movement while brainstorming.

Activities:

Warm-up: “Quick Think” - In Journals have students write down the Divergent Thinking Guidelines that they remember from the day before. Review them.

Primary: **Round 1:** Have an object visible to all the students (such as a shoe, a button, a string etc.) As students come into the room have them take out their journals. When all students are settled remind them of the divergent thinking guidelines. Then tell the students to generate as many ideas as they can think to do with the object in 7 minutes. The student with the most ideas will get a prize. When the timer buzzes pole the class to find out who has the most ideas. Have the student read their list to the class. Remind the class not to “judge” any of the ideas. Have all the other students jot down how many ideas.

Round 2: Repeat with new object. This time allow students to walk around (weather permitting have them walk outside) while they come up with their ideas. If they like they can record them as a voice memo. Give them time to count and write down what they wrote. Again have student with most ideas read/play them to the class. Give a prize.

Ask how many ideas did you create walking around compared with while seated?

Wrap-up: Tell students that a study reported in *The Journal of Experimental Psychology* in 2014 reported that you can “boost” your creativity 60% by walking while brainstorming (Chisholm 6). Discuss their observations.

Resources:

- Two objects
- Timer

Assessment:

Class discussion comparing their production of ideas between sitting and walking.

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DAY 3

Lesson Objective:

Develop “Forced Connections” for creating unusual and unexpected ideas.

Introduce the divergent thinking guideline, “Forced Connections”.

Activities:

Warm-up: Have students again record the four guidelines for divergent thinking.

Students complete the Squiggle drawing exercise.

Clap-Snap game.

Primary: Forced Connections Activity (CEF 29)

Pose a relevant challenge to the students. Then provide the students with an object (Choose a random object such as a toy, orange, rubber band, etc. and ask them to:

1. Brainstorm the characteristics of the object.
2. Then have students explore in their journals how the characteristics of the object can stimulate new ideas for the challenge. Provide example (CEF 29).

Wrap-up: Class discussion, prompt students, “What unusual and unique ideas did you come up with by making “*Forced Connections*” between the object and the problem.

Resources:

- Squiggle Drawing Exercise
- Objects
- Student journals

Assessment:

Have students explore in their journals the new and/or unusual approaches they discovered to the challenge prompt through “Forced Connections”.

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DAY 4

Lesson Objective:

“Wild and Crazy” ideas are ok. “Break out of ruts” and generate ideas by applying the “SCAMPER” technique.

Introduce the divergent thinking guideline, “*Wild and Crazy*” ideas are ok.

Activities:

Warm-up: Have students rearrange their seats so they are sitting in a new location.

“Quick Think” - Have students write down the guidelines for divergent thinking.

Modified version (5 minutes total) of “Get Crazy” Activity from 101 Activities for Teaching Creativity and Problem Solving by Arthur B. VanGundy, pg 52

Primary: Introduce the acronym SCAMPER, **S**ubstitute, **C**ombine, **A**lternatives, **M**odify, **P**ossibilities, **E**liminate, **R**earrange. **Note: This is a modified version of the CEF Acronym from page 31 of the Creative Problem Solving Resource Guide 2014.*

Possibilities: What other thoughts does this suggest? What else is like this? Does the past offer a similar situation or parallel?

Alternatives: What else can it be used for as it? What other uses might there be, if changed? What other markets might be interested?

Each student gets a paper bag containing “stuff” (building materials). Then they blind select an object to build. For example, 1) Something to sit on, 2) Something to dig with, 3) Something to eat with, 4) A communication device, 5) A listening device, etc. they must use the materials provided to create the specified object. Students have 10 minutes to build. Remind them to consider SCAMPER when they are building. When they are done they present their creations to the class.

Wrap-up: Students present their creation to the class and explain how they used the SCAMPER to stimulate ideas.

Resources:

- SCAMPER acronym posted in the room
- Flip chart paper
- Masking tape - to hang flip chart paper
- For each participant one sheet each of three different color sticking dots
- 1 pad 4”x6” post-it notes for each participant

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- Get Crazy Handout
- For each student a paper bag of “stuff” for building
- Object cards for each student

Assessment:

In 30 second presentations, students present their “objects” to class and describe how they used SCAMPER to facilitate their idea generation.

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DAY 5

Assessment

Using “The Extraordinaires” game each student designs an object.

Pose prompt, “What did I learn about brainstorming and how did it change my perspective about generating ideas?” Describe at least two divergent thinking guidelines that you applied while designing your Extraordinaires object. How did these guidelines help you create?

Outline your thoughts and then prepare a 30 second - 1 minute voice memo or video clip reflection.