

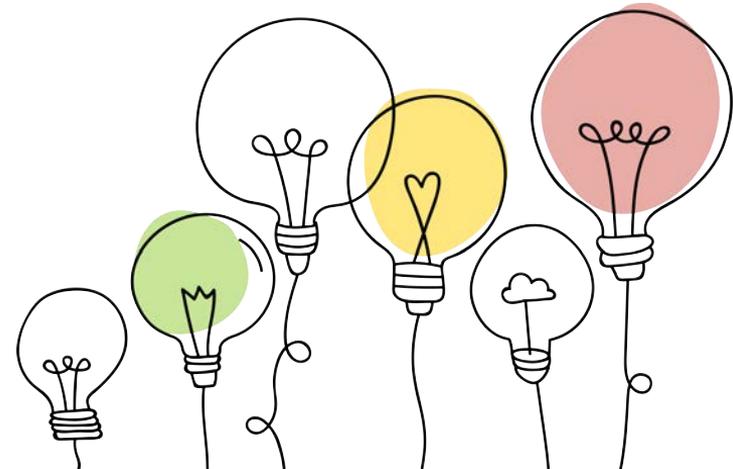
Powerful Problem Solving

June 2019



Jen Cornett

Gifted Education Specialist
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VISION

To create a world-class educational system that gives students the knowledge and skills to be successful in college and the workforce, and to flourish as parents and citizens

MISSION

To provide leadership through the development of policy and accountability systems so that all students are prepared to compete in the global community

MISSISSIPPI STATE BOARD OF EDUCATION
STRATEGIC PLAN GOALS

1

All
Students
Proficient
and Showing
Growth in All
Assessed
Areas



2

Every
Student
Graduates
from High
School and
is Ready for
College and
Career



3

Every
Child Has
Access
to a High-
Quality Early
Childhood
Program



4

Every
School Has
Effective
Teachers and
Leaders



5

Every
Community
Effectively
Uses a
World-Class
Data System
to Improve
Student
Outcomes



6

Every
School and
District is
Rated “C” or
Higher





PANTS ON FIRE

Listening & Information Literacy Skills



MISSISSIPPI
DEPARTMENT OF
EDUCATION

Ensuring a bright future for every child

Melissa Banks

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Instructional Technology Specialist (K-12)

Office of Elementary Education and Reading

Local school districts have discretion over which technology partners and products are utilized in their districts. For legal advice regarding technology services, please contact your local school board attorney.

LISTENING

Communication Skills

- Demonstrate effective listening behaviors
- Identify the purpose, content, organization, and delivery of oral communication and evaluate based upon preset criteria



INFORMATION LITERACY

Given a real situation, the student will identify and define the problem, design a research plan appropriate to the problem, conduct the investigation, decide on the most appropriate media for dissemination of the findings/solutions, and present the results before an authentic audience.



INFORMATION LITERACY

tinyurl.com/y8bafvr5



RESEARCH

Gather Research

- Teacher-approved resources IL 2.4
- Assemble information IL 2.5
- Employ various digital media tools to locate and collect accurate and reliable information IL 3.3

ANALYZE SOURCES



Analyze Sources

- Interpret and evaluate information IL 3.5
- Analyze primary sources IL 5.1
- Utilize primary and secondary sources to provide new knowledge or understanding IL 5.2
- Based upon data gathered through research, infer future trends, directions, similarities, and differences IL MS 5

VALIDITY & RELIABILITY



Evaluate Sources

- Interpret and evaluate information IL 3.5
- Define and identify use of propaganda techniques IL 5.3
- Assess the validity, reliability, and relevance of information IL 5.4
- Critical analysis and evaluation of information IL MS 4

POINT OF VIEW



Evaluate Point of View

- Interpret and evaluate information IL 3.5
- Understand hidden agendas by critical analysis and evaluation IL MS 5

INTERVIEWS & SURVEYS



Effective Surveys

- Assemble information by conducting interviews IL 3.2
- Assemble information by utilizing effective survey techniques IL 4.2

CREATE VISUALS



Visually Organize Info

- Create and visually organize information using maps, webs, chronological order, sequence, or compare/contrast IL 3.4
- Create and visually organize information using charts, tables, graphs, evidence, or patterns IL 4.3



PANTS ON FIRE

<http://www.pantsonfire.pizza/>





PANTS ON FIRE

In a time where everyone lays claim to the truth, kids should know where they stand. And what better way to test their lie-detecting skills than a game show that puts kids in the driver's seat, adults on the hot seat, and straps a sound-effects robot to the roof? Each week, a kid interviews two experts in a particular topic—one, a genuine, credentialed expert, the other a low-down dirty liar. Hilarious and fast-paced, the show encourages kids to teach themselves how to ask insightful questions, weigh the evidence before them, and when to trust their gut.



PANTS ON FIRE

- Listening Skills
- Information Literacy Skills





PANTS ON FIRE

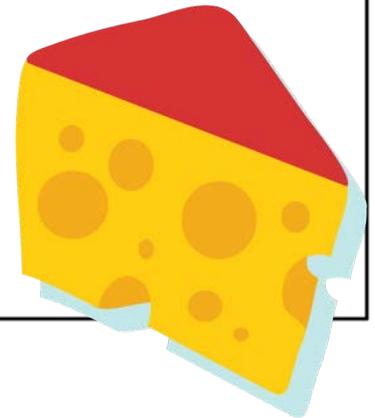
Prior knowledge



PANTS ON FIRE



WHAT I KNOW





PANTS ON FIRE

Take notes



PANTS ON FIRE

EXPERT #1:



You know these things the expert said are correct



You know these things the expert said are incorrect



You have questions about these things the expert said -
RESEARCH



PANTS ON FIRE

Let's listen!





PANTS ON FIRE

Who is the liar?

- Discuss at your table.
- Share out.



PANTS ON FIRE

Extensions

- Continue the research.
- Create their own graphic organizer.



Melissa Banks

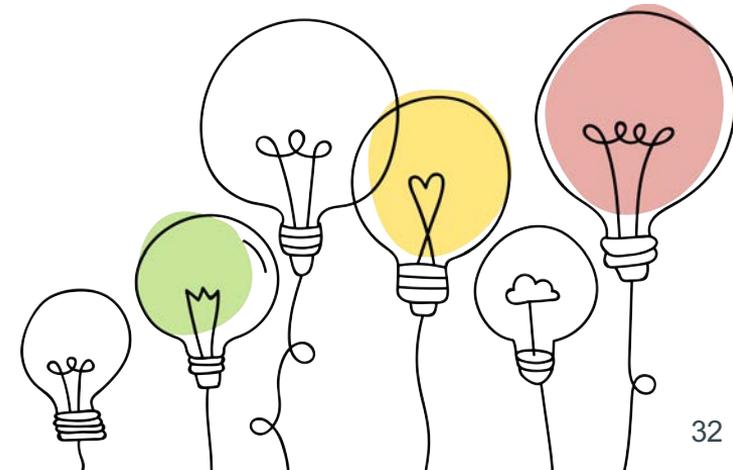
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The Case for

Open Ended Instruction



Open Ended Instruction

- Intents and purposes of individuals are uniquely established and pursued.
- Open ended can mean the learning outcomes (goals), the pursuit of learning (means), or both (goals and means).

Open Ended Instruction

Learning is most effective when students:

- Encounter
- Share
- Revise

Process

Product

Open Ended Instruction

- **Process** is more critical than generating products.
- **Inquiry** is valued more than acquisition.

Open Ended Instruction

Student inquiry leading to student inference is an essential and non-negotiable part of learning for understanding.

Open Ended Instruction

Why?

Because **understanding is dependent upon drawing inferences by oneself** – as well as testing and justifying those inferences – if only to question or verify claims made by the teacher, other students, or authors.

Open Ended Instruction

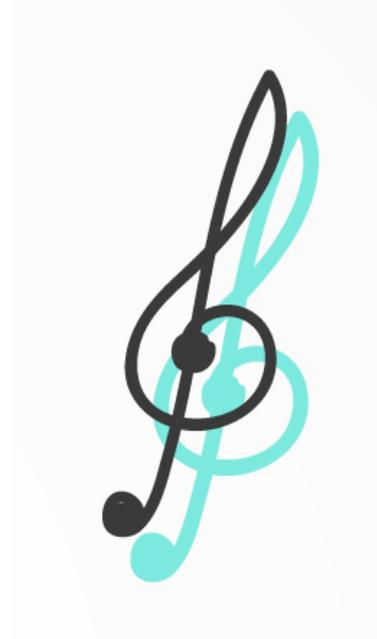
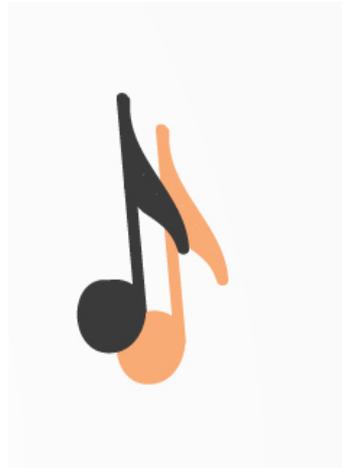
Otherwise, it is rote learning with no thinking behind it.

Break the Ice



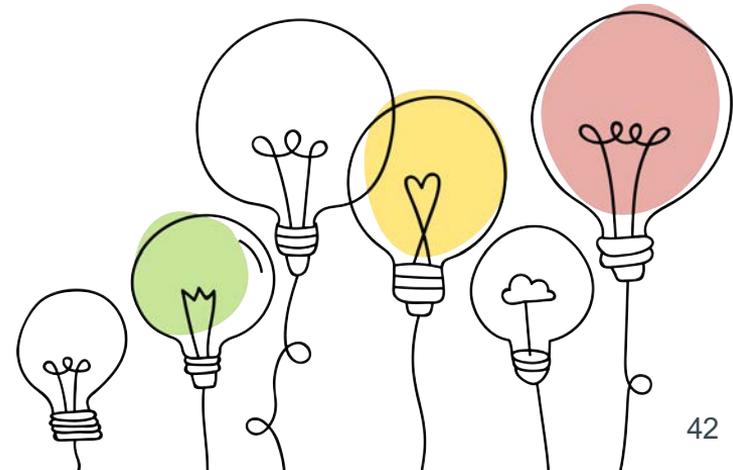
Break the Ice

- Open the selection
- Complete the tune



Experience

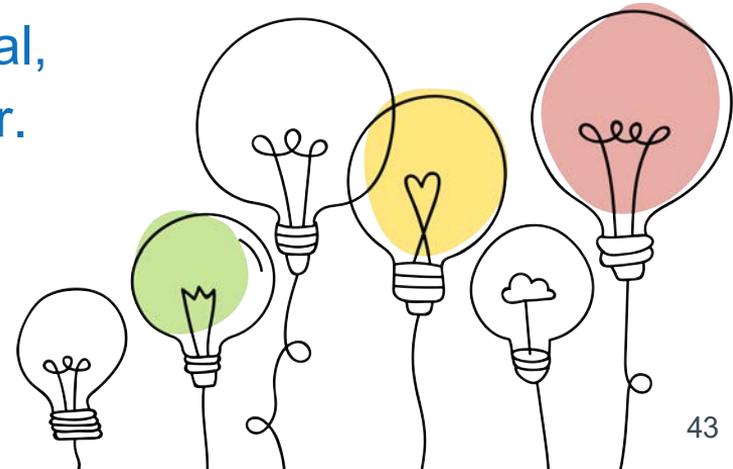
Problem Solving



Step 1

The Problem

Goal: As a group, determine the problem, goal, challenge, or desire that you want to consider.



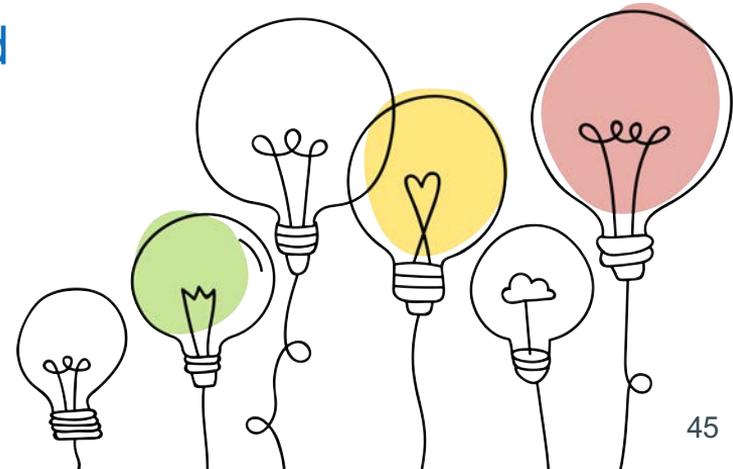
Step 1: The Problem

- You must come to a consensus.
- Once you select a topic, you can pinpoint the focus of the project, but you may not change topics.
- Before moving to step 2, your topic must be approved by the facilitator.

Step 2

Clarify

Goal: As a group, determine questions based on your topic, then gather information.

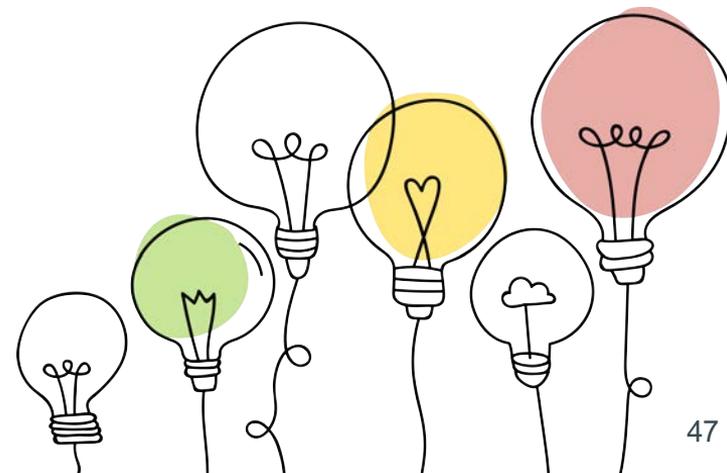


Step 2: Clarify

- Create open ended questions based on your topic.
- Identify possible sources. Gather additional information.
- Organize your team so that time and resources are used effectively.

Questioning

Techniques



Questioning Techniques

Questioning Hierarchy

- Start with yes/no questions
- Follow with levels of What/How (WH) Questions

Questioning Techniques

Questioning Hierarchy

Yes/No Question: Are there teachers present?

WH Level 1 – Adds detail: How many teachers are present?

Questioning Techniques

Questioning Hierarchy

WH Level 2 – Adds a modifier: What three things do teachers like about summer?

WH Level 3 – Adds choice: What do teachers like and not like about their work?

Questioning Techniques

FIRE Questions

Factual Thinking – Seeks factual information

Insightful Thinking – Seeks the big picture, or idea depth

Rrational Thinking – Seeks to analyze or idea breadth

Evaluative Thinking – Seeks to make judgements or connect

Questioning Techniques

FIRE Questions

Factual Thinking – Who, when, where, and how many

Insightful Thinking – What, which, why, how, and what if

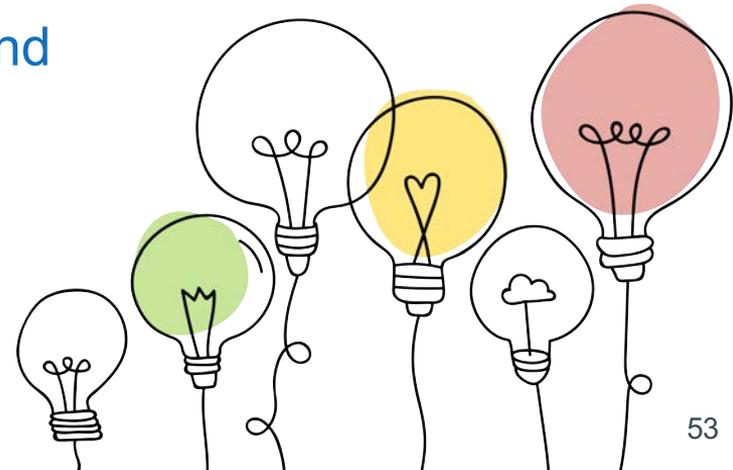
Rrational Thinking – What, how, what steps

Evaluative Thinking – What, how and why

Step 3

Ideate

Goal: As a group, create a solution based mind map.

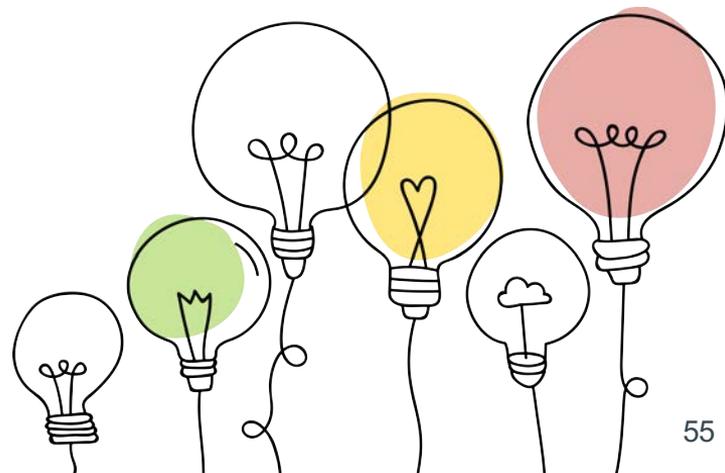


Step 3: Ideate

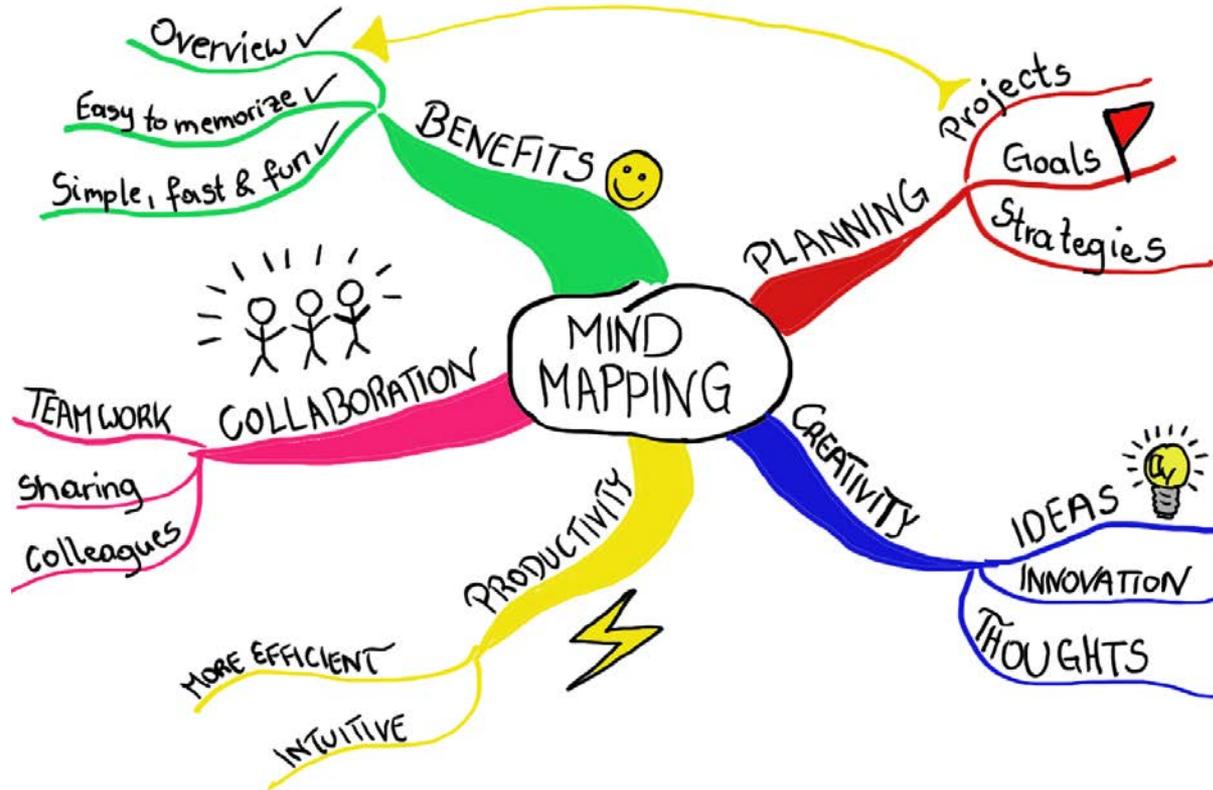
- Select an open-ended question from Step 2.
- Create a mind map to answer the selected question.
- Focus thinking and discussion on solutions.

Mind

Maps



Mind Maps

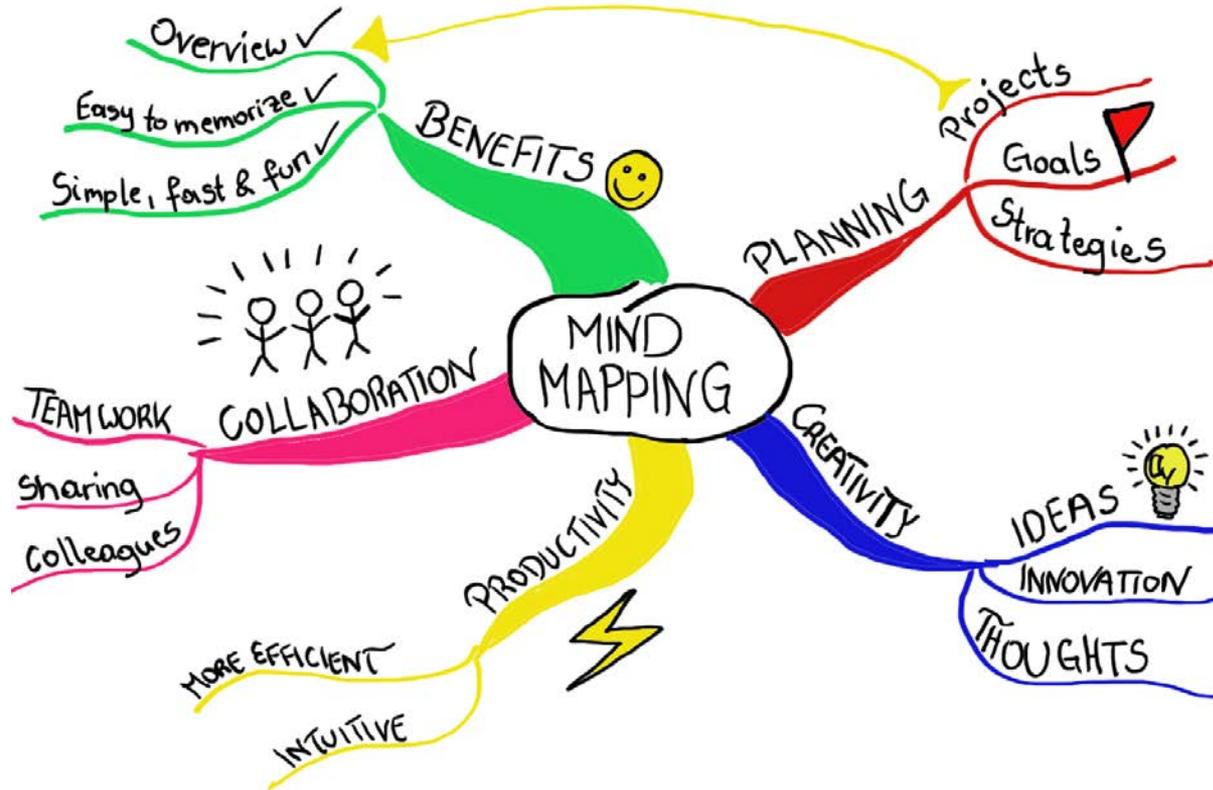


Mind Maps

Intro

Example

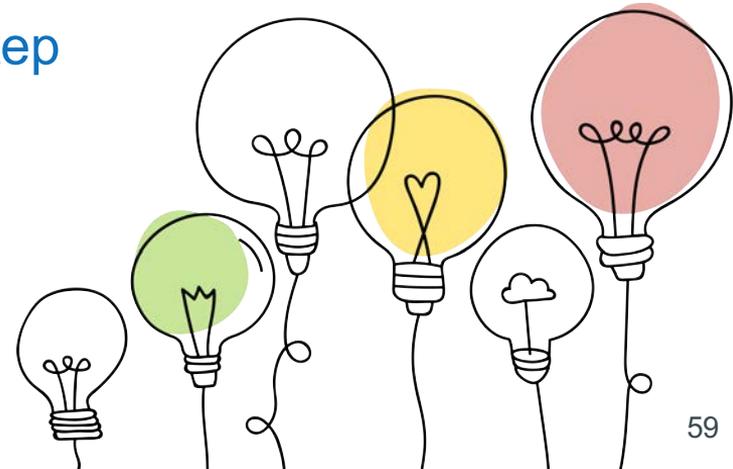
Mind Maps



Step 4

Develop

Goal: Evaluate ideas and/or solutions from step 3, then determine the best idea or solution.



Step 4: Develop

→ Create 3 or more questions and evaluate your ideas/solutions.

Examples: Does it meet your needs?

Can it be implemented?

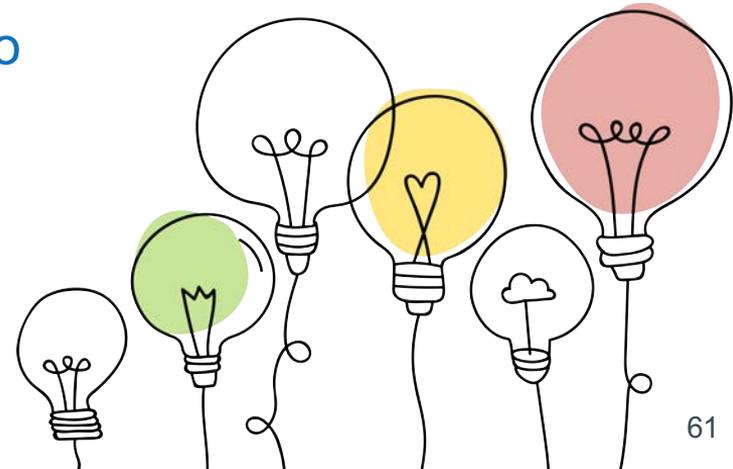
Can you strengthen it?

→ Choose the best solution.

Step 5

Implement

Goal: As a group, determine a creative way to share your problem and best solution.

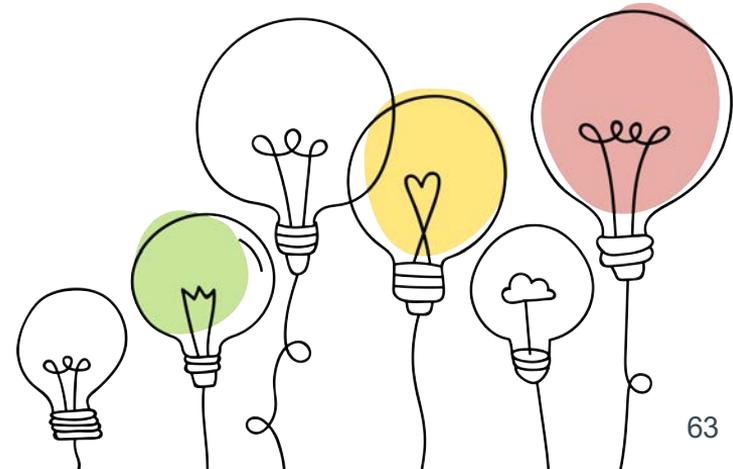


Step 5: Implement

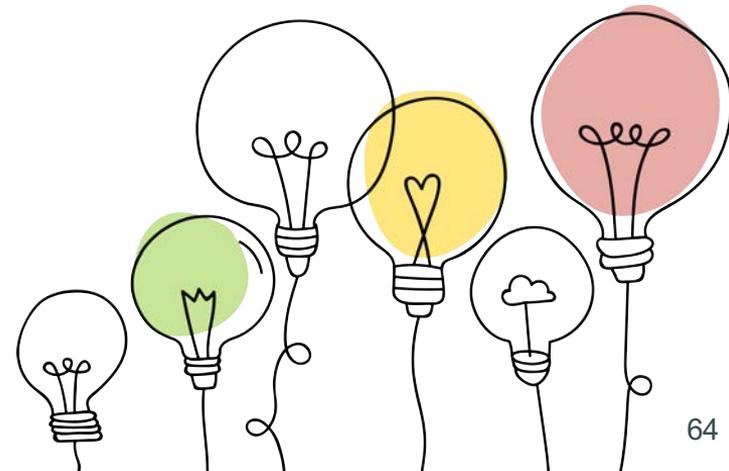
- Create a plan of action.
- List needed resources.
- Communicate your process and plans.
- Collect feedback.

Project

Presentations



Assessment



Assessment

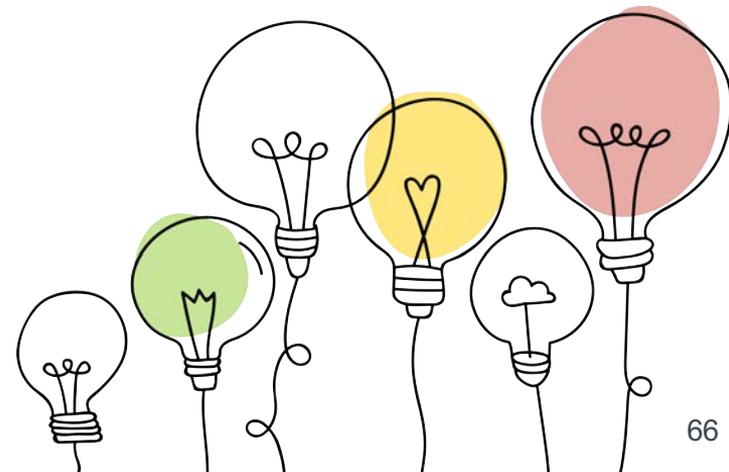
As a group, discuss how you would assess this learning process.

→ Actionable Feedback

→ SMART Goals

Specific, Measurable, Achievable, Relevant, Timely

Reflections



Reflections

- What did you learn?
- Who was responsible for the process?

Reflections

- What did you do well?
- What could you have done better?
- What will you change moving forward?

Reflections

- Within your classroom, how could use this process to meet the needs of gifted students?
- What strategies could be added to support the process?

Reflections

- What changes would need to be made for younger students? Older students?

Reflections

- What Outcomes have we addressed?
- How have those Outcomes been implemented?



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