Project Bright IDEA 2: Interest Development Early Abilities

A Jacob Javits Gifted Education Program
Funded by the US Department of Education
2004-2009

Concept: Systems

Topic: Techology's Impact on Society

By: Marilyn Bernold, Sandra Jones, Suzy Krutsch

Grade Level: 5

The North Carolina Department of Public Instruction

Exceptional Children Division
Academically or Intellectually Gifted Program

The American Association For Gifted Children at Duke University

Project Bright IDEA Javits Research funded by US Department of Education   2
North Carolina Department of Education and The American Association for
Gifted Children, Duke University

Big Ideas Manifested

> **Topic** – Technology's impact on society
> **Text** – *The Homework Machine*
> **Author** – Dan Gutman
> **Publisher/Date** – Simon & Schuster, 2006

Concepts	Themes
Systems Relationships Power	Integrity (honesty, ethics) There are two sides to everything-pros and cons.
Issues or Debates	**Problems or Challenges**
The value of war ("He died for nothing.") Technology always enriches our lives.	Not everyone has equal access to technology. Not everyone is positively affected by technology.
Processes	**Theories**
Problem solving Cause and effect Decision making	Adaptation-Things adapt to survive. War is necessary. Necessity is the mother of invention.
Paradoxes	**Assumptions or Perspectives**
War creates peace.	Homework is necessary and beneficial. True friends always stick together. Technology improves society and life.

Concept: **Systems**   Topic: **Technology's impact on society**

Suggested Text Selection(s):
The Homework Machine, **by Dan Gutman**

Look, Listen and Identify:

Intelligent Behaviors

    Story Focus

    Student Activities

NC Standards:

Grade 5, Social Studies: Objective 6.02

Relate how certain technological discoveries have changed the course of history and reflect on the broader social and environmental changes that can occur from the discovery of such technologies.

Grade 5, Social Studies: Objective 4.05

Describe the impact of wars and conflicts on United States citizens, including but not limited to, the Civil War, World War I, World War II, the Korean War, the Vietnam War, Persian Gulf War, and the twenty-first century war on terrorism.

Grade 5, Language Arts: Objective 4.02
Use oral and written language to:
- formulate hypotheses.
- evaluate information and ideas.
- present and support arguments.
- influence the thinking of others.

Project Bright IDEA Javits Research funded by US Department of Education   4
North Carolina Department of Education and The American Association for
Gifted Children, Duke University

Local Pacing Guide Timeline:
These social studies goals are taught in quarter three.

Thinking Skills Focus:
      Compare and contrast
      Make informed judgments
      Making connections

Topic Focus:
Technology's Impact on Society-As technology evolves it impacts people in a variety of ways.

Concept Focus:
Systems, Relationships, Power

Overarching Generalizations:
Systems are composed of interrelated subsystems or parts.
Systems work to complete a task or mission.
Systems are complex.
Relationships have meaning.
Everything is part of a system.
Power may be used or abused.
Everything is related in some way.
Power may take many forms.

More Complex Generalizations (Two or more concepts):
Relationships within systems and between systems are purposeful.
Systems are interdependent upon one another.
Systems may be influenced by other systems and power is the ability to influence.
Systems create balance.
Relationships can be unifying and/or dividing.
Relationships can be simple or complex.
Relationships are inevitable.
Power is always present in some form.

Directions for Teachers:

Display sentence strips with the generalizations. Discuss topics and vocabulary words needed to gain a deeper understanding of the conceptual lessons.

Suggested Topics for Discussion:

- Why are things invented?
- How does technology progress?
- Who influences the decisions about technological advances?
- What could be positive and negative about the same technological advancement? (example: computers-positive is obvious, negative-create impatience, lack of physical activity, people don't visit each other as much, etc.)

Suggested Vocabulary Words for Discussion:

Accumulate	Data	Graffiti	Reputation
Anonymous	Decision	Gravitated	Sap (not tree)
Appropriate	Defiant	Humiliating	Self-Defeating
Association	Destined	Hypothesis	Shunned
Ballistic	Digital	Influence	Spinal Cord
Blunders	Discrimination	Intentional	Steroids
Catapult	Distraught	Interdependent	Suspended
Citizenship	Domino Effect	Intrigued	Suspicious
Commandment	Duplicated	Leonardo Da Vinci	System
Commie	Essentially	Mona Lisa	Testimony
Complicated	Fad	Obnoxious	Torsion Spring
Concerto	Fascinating	Pathetic	Totalitarian
Constitutional	Fidgeting	Perceived	Virtual
Crank	Generalization	Power	Simulation
Creativity	Gesture	Prioritize	Weirdness
Damper	Government	Psychology	
		Relationship	

A Six-Step Process for Teaching Academic Vocabulary Terms:

1. Provide a description, explanation or example of the new vocabulary term.

2. Ask students to restate the description, explanation or example in their own words using complete sentences.
3. Ask students to construct a picture, symbol or graphic representing the term or phrase.
4. Engage the students periodically in activities that help them add to their knowledge of the terms in a booklet that they have created (Keep it simple.)
5. Periodically ask students to discuss the terms with one another (**Think** of your favorite vocabulary words from the unit; **pair** with a vocabulary buddy, **share** by discussing the vocabulary terms with your vocabulary buddy.) Teacher should model process each time before students do the Think, Pair, Share with Vocabulary Buddy.
6. Construct games to periodically involve students and allow them to play with the terms.

Robert Marzano

Vocabulary Extension:

Students create crossword puzzles or card games using words.

Select a generalization(s) and essential questions. Introduce one or more of the following topics:

Six Facets of Understanding

Facet 1 – EXPLANATION
What is a system? What is a relationship? How is a relationship like a system and how is it different? What is technology?
Facet 2 – INTERPRETATION
How can technology affect relationships? How does technology impact me?
Facet 3 – APPLICATION   START HERE
How might changing the system help us to solve a problem?

Project Bright IDEA Javits Research funded by US Department of Education   7
North Carolina Department of Education and The American Association for
Gifted Children, Duke University

Facet 4 - PERSPECTIVE
How does changing one system affect other systems? How does the system affect me and how do I affect the system? How did the English system of governing the (American) colonists lead to their freedom? How did the American Revolution affect the rest of the world?

Facet 5 – EMPATHY
How is my behavior experienced by others who are in the system? How does how I impact the system affect others?

Facet 6 – SELF-KNOWLEDGE
How could I influence the system? What are my limits? How do I want impact the system and how is that possible? How does my contribution to the system affect me in the long-run?

Introductory Activity

Task Rotation Learning Activities

Grade 5: SS- Goal 6: The learner will recognize how technology has influenced change within the United States and other countries in North America.

All conceptual activities must include discussing and/or relating to the selected generalization(s) through essential questions.

Mastery Learner (A) Sensing- Thinking	Interpersonal Learner (B) Sensing-Feeling
Research an important technological device: telephone, steam engine, ~~printing press~~, cotton gin, light bulb, or ~~personal computer~~. Find out who invented it, what it did, and how it impacted society. Create a chart to show your findings.	If you were one of the first people to get a telephone, who would you **want** to call and why? What would you discuss and why? How did having a phone change your life? Explain your thinking. What do you discuss when you talk on the telephone now? How has telephone usage changed between then and now? Explain your thinking. How would your life be different if you didn't have a telephone? Draw a cartoon for two different phone calls: one for the early days of the telephone and one for now. Then write an explanation for your thinking answering all of the above questions.

Understanding Learner (C) **Intuitive-Thinking** Compare and contrast the impacts of two different inventions using the open compare and contrast form. Choose from these inventions: telephone, steam engine, printing press, cotton gin, light bulb, or personal computer.	**Self-Expressive Learner (D)** **Intuitive-Feeling** There are children all over the world who work in "sweat shops." Invent something that would improve their lives similar to how the cotton gin improved people's lives. (slaves) Draw a diagram and explain how it would help.

Real World Connections with Products:

Scripts, comic strips, charts, diagram, posters, diagram, invention

Real World Applications:

Actor, writer, psychologist, politician, inventor, sociologist, social worker

Real World Terms:

Compare/contrast, reflect, pretend, imagine, draw, diagram, create, explain, think, research

Materials Needed for Task Rotation

Paper
Pencils
Colored writing utensils
Computers (if possible)
Research materials

MetaCognitive Discussion (Essential Questions):
(Whole Group)

Conceptual Perspectives:

Systems are composed of interrelated subsystems or parts.
Systems work to complete a task or mission.
Systems are complex.
Everything is related in some way.
Relationships within systems and between systems are purposeful.
Systems are interdependent upon one another.
Systems may be influenced by other systems.
Relationships can be unifying and/or dividing.

Intelligent Behaviors:
1. Which intelligent behaviors does an inventor use? Rank them in order of importance.
2. In what ways can we demonstrate the following intelligent behaviors?
   a. Thinking and communicating with clarity and precision
   b. Listening and understanding with empathy
   c. Thinking flexibly
   d. Remaining open to continuous learning
3. How does thinking about your thinking (metacognition) affect others?

Literary Perspectives:

Technology impacts the system.
1. How does technology affect the way your teachers teach?
2. How does technology affect the homework assignments your teachers assign?
3. How does technology affect the way your family functions?
Technology affects our lives in many ways.
1. How does technology affect the way you do your homework?
2. How does technology affect your learning?
3. Does technology affect the way you select your friends, and if so, how does it affect your choices?

Student/Teacher Reflection

Task Rotation Learning Activities
"Inspirational Kids"

Grade 5: SS-Goal 5: The learner will evaluate ways the United States and other countries of North America make decisions about the allocation and use of resources.

Mastery Learner Sensing- Thinking TASK 1 (go to I-T)	Interpersonal Learner Sensing-Feeling TASK 3
Choose an influential historical figure from the given list and research how the person was able to make positive changes to our society. What resources (people, money, materials, etc.) were needed to accomplish the goal and what he or she did to get them allocated to the cause? How were the resources used? What system did this person want to impact? Create a timeline, a comic strip or a pamphlet to demonstrate your findings. What gifted intelligent behaviors did the person you chose exemplify and how did he/she do this?	Of the influential historical figures we studied, which one do you believe was least influential to society? What system did she or he want to impact? What would you have done differently to have had more success? You've been called in to be the advisor to help this person have more impact on the system. Write and perform a mock interview with a partner showing your critique and advice. What gifted intelligent behaviors did this person lack? What gifted intelligent behaviors would you have to use to effectively advise him/her?

Understanding Learner Intuitive-Thinking TASK 2 (go to S-F or I-F)	Self-Expressive Learner Intuitive-Feeling TASK 3
Compare and contrast your chosen influential figure to an "Inspirational Kid" using the focused compare and contrast graphic organizer. Focus your comparison on acquisition of resources, organizational technique, communication technique, and reason for the project. (An "Inspirational Kid" is a child or young person who has made a difference by finding a way to help members of society. For example, a girl who lives in Hickory, NC decided to collect suitcases for foster children. Your teacher has a booklist.) Which gifted intelligent behaviors do these people have in common? How did the use of their gifted intelligent behaviors impact their success?	Of the influential historical figures we studied, which one do you believe was most influential to our societal system? How did she or he get and use resources needed for his or her cause? How did she or he impact the system positively? What if your classmates acted like that person? How would your class, school, and/or community be impacted? Which intelligent behavior was most valuable to the historical figure's ability to successfully influence the societal system? (Use the tournament activity) Write and deliver a motivational speech to convince your classmates to emulate some of the characteristics of the historical figure you chose. Be sure to include the outcomes that would impact the system positively. You may want to include a rap or jingle. It will be necessary to justify your conclusions.

Real World Connections with Products:

Chart, conclusion, timeline, comic strip, pamphlet, interview, press conference, demonstration

Real World Applications:

Politician, social worker, accountant, writer, TV personality, historian, lawyer, paralegal, professor, teacher, editor, journalist, community organizer, fund-raiser

Real World Terms:

Research, compare, contrast, create, evaluate, pretend, imagine, justify, allocate, discuss, decide, analyze

Materials Needed for Task Rotation and/or Task Rotation Menu

List of historical figures:

- Abe Lincoln
- Henry Ford
- Elizabeth Cady Stanton
- Jonas Salk
- Susan B. Anthony
- Rachel Carson
- Eleanor Roosevelt
- Frederick Douglass
- Robert Oppenheimer

- Horace Mann
- Cesar Chavez
- Jane Addams
- P.T. Barnum
- Florence Nightingale
- Clara Barton
- King George III
- Harriet Tubman
- Amelia Earhart

Kids Explore Kids Who Make a Difference (Kids Explore Series) by <u>Westridge Young Writers Workshop</u> (Author)

ISBN-10: 1562613545

ISBN-13: 978-1562613549

The Kid's Guide to Service Projects: Over 500 Service Ideas for Young People Who Want to Make a Difference (Self-Help for Kids Series) (Self-Help for Kids Series) (Paperback)
by <u>Barbara A. Lewis</u> (Author), <u>Pamela Espeland</u> (Editor)
ISBN-10: 0915793822

ISBN-13: 978-0915793822

Kids With Courage: True Stories About Young People Making a Difference (Paperback)
by <u>Barbara A. Lewis</u> (Author) (Does have information about testimony against sexual abuser.)
ISBN-10: 0915793393

ISBN-13: 978-0915793396

It's Our World, Too! (Paperback)
by <u>Phillip Hoose</u> (Author)
ISBN-10: 0374336229

ISBN-13: 978-0374336226

Do You Believe In Me? (TX kid talking to teachers on YouTube.)

MetaCognitive Discussion (Essential Questions):

(Whole Group)

Conceptual Perspectives:
1. How does each person's actions impact the system?
2. How does the relationship one has with the system or relationships within the system empower the person to influence the system?
   a. How can the influence on the system result in a positive or negative outcome? (Use Dr. Swartz cause and effect or decision making graphic organizer)

Intelligent Behaviors:
1. Which gifted intelligent behaviors do these people have in common?

2. How did the use of their gifted intelligent behaviors impact their success?

3. What gifted intelligent behaviors did this person lack?

4. What gifted intelligent behaviors would you have to use to effectively advise him/her?

5. What gifted intelligent behaviors did the person you chose exemplify and how did he/she do this?

6. Which intelligent behavior was most valuable to the historical figure's ability to successfully influence the societal system? (Use the tournament activity)

Literary Perspective:
1. What systems are evident in the story?

2. How did their involvement with the homework machine influence each of the kids' behaviors? Which habits of mind did they exhibit?
3. How did each of the 4 kids influence his/her community before and after their involvement with the homework machine?
4. How did Mrs. Rasmussen's system of evaluation affect the behaviors of her students? What gifted intelligent behaviors did Mrs. Rasmussen not use?
5. How did their involvement with the homework machine affect the kids' relationships with one another?
6. Which student listened with the most understanding and empathy? Why did you select that student?
7. If Mrs. Rasmussen had thought more about her thinking and gathered data through all of her senses, how might the community have been affected? (D-Squad, other students, policemen, families)
8. For each of the D-Squad members, identify the habit of mind that you think is most important for him/her to strengthen. Explain your decisions.
9. For each of the D-Squad members, identify the habit of mind that you think benefitted him/her the most.

Student/Teacher Reflections

Concept:

Topic:

Generalization(s):

Essential Question(s):

Task Rotation Menu

Level	Mastery	Understanding	Self-Expressive	Interpersonal
1				
2				

3				

Real World Connections With Products:

Real World Applications:

Real World Terms:

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:

Overarching Generalizations:

More Complex Generalizations (Two or more concepts):

Essential Question:
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

Materials Needed for Task Rotation and/or Task Rotation Menu

-
-

MetaCognitive Discussion (Essential Questions):

(Whole Group)

Conceptual Perspectives:

Intelligent Behaviors:

Literary Perspective:

Student/Teacher Reflections:

Student Reflections and Assessments
Task Rotation Learning Experience
Grade 5
All conceptual activities must include discussing and/or relating to the selected generalization(s) through essential questions.

Mastery Learner (A) (HOM 8,4) **Sensing - Thinking** Choose one of the "Inspiring Kids." Identify the characteristics that contributed to his/her success and create and flow chart that shows these characteristics in action. The flow chart should represent the project from its inception to its current status. Identify three events in your flow chart that significantly impacted the project. Tell what caused this impact. (Who was involved? What habits did they exhibit? What did they do?) (Be sure to show what you know about systems, relationships, and power.) Write a brief newspaper article that highlights the impact this "Inspiring Kid" has had on society?	**Interpersonal Learner (B)** **Sensing-Feeling** Which project by an "Inspiring Kid" would you like to join and why? Where do you see yourself fitting into this project to help it grow? Create a self-reflection telling what habits of mind make you able to be to positively influence it. What habits of mind do you need to develop more in order to do this better? What "Inspiring Kid" project is NOT for you? Explain why. Justify your responses using what you know about habits of mind, systems, relationships, and power.
Understanding Learner (C) **Intuitive-Thinking** Choose one project created by an "Inspiring Kid." Consider what types of people may be needed to successfully grow the project. Create three or more advertisements to recruit these volunteers. Each advertisement must be for a different recruit with different strengths in ability and habits of mind. Who would be the ideal candidate for each of your positions? Justify your choices. Remember to show what you know about habits of mind, systems, relationships, and power in your work.	**Self-Expressive Learner (D)** **Intuitive-Feeling** FEED BACK (FIX THIS) Think of your own plan to help society and create a way to share each step that will be necessary to put it into action. What impact might your plan have on society? What habits of mind will be most beneficial to you? Justify your plan by providing evidence that it will be effective. Don't forget to show what you know about habits of mind, systems, relationships, and power.

V__L__S__M__B__P__I__N__	V__L__S__M__B__P__I__N__

Real World Connections With Products:
Flow-chart, newspaper article, self-reflection, advertisement, strategic plan.

Real World Applications:
Social worker, advertising executive, human resources job recruiter, community activist, teacher, volunteer .

Real World Terms:
Choose, identify, create, justify, write, advertise, recruit, volunteer, plan.

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

Concept Focus:

Overarching Generalizations:

More Complex Generalizations (Two or more concepts):

Essential Question:
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

Materials Needed for Task Rotation and/or Task Rotation Menu

- Note to teachers – The choice of person for the Understanding learner activity should be open. If students question who to choose, tell them it could be anyone, ie., a classmate, a friend, a family member, a teacher, a clergy person, etc,

-

MetaCognitive Discussion (Essential Questions):

(Whole Group):

Conceptual Perspectives:

Intelligent Behaviors:

Literary Perspective:

Student/Teacher Reflections

Task Rotation 3

Grade 5: SS Goal 2: The learner will analyze political and social institutions in North America and examine how these institutions respond to human needs, structure society, and influence behavior.

Relate more to novel

Mastery Learner Sensing-Thinking	**Interpersonal Learner** Sensing-Feeling
Understanding Learner Intuitive-Thinking	**Self-Expressive Learner** Intuitive-Feeling

Real World Connections With Products:

Real World Applications:

Real World Terms:

Connect all products in the unit to real world applications reflecting the concept, generalizations and topic. The above is an example of how this might be accomplished.

<div align="center">

Concept Focus:

Overarching Generalizations:

More Complex Generalizations (Two or more concepts):

Essential Question:
(Include concept and intelligent behavior that leads to deeper understanding of the concept through exploration of the generalization)

</div>

Materials Needed for Task Rotation and/or Task Rotation Menu

-
-

MetaCognitive Discussion (Essential Questions):

(Whole Group)

Conceptual Perspectives:

Intelligent Behaviors:

Literary Perspective:

Student/Teacher Reflections:

Additional Support Materials:

Favorite Read-Alouds:

Finger Plays, Nursery Rhymes and Songs:

Video Clips:

Paintings & Prints:

Teacher Reflections

Literary Selection

Date   **School**
Grade

1. What were the strengths of the task rotations and/or other activities?

2. How did the task rotations and/or activities reveal students' Intelligent Behaviors? Please discuss how each Intelligent Behavior manifested it self.

3. What would you change or add the next time you taught this lesson?

4. What opportunities for growth does the resource unit have?

5. What were "ah ha's?" for the students?   For teachers?

"**Additional Comments**

APPENDIX

A

Additional Instructional Concept-Based Activities