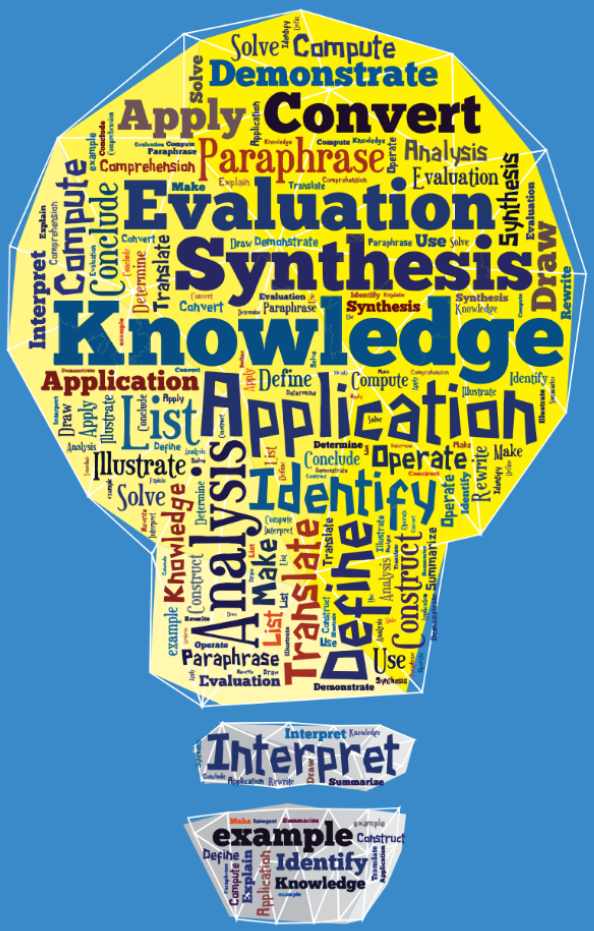

Critical Thinking Toolkit

INTER-AMERICAN TEACHER EDUCATION NETWORK
Organization of American States

OAS | ITEN

ITEN is carried out with the generous contribution of the U.S. Permanent Mission to the OAS.

Critical Thinking Toolkit

Inter-American Teacher Education Network
Organization of American States

2015 Edition.

Developed by:

Content Expert: Olga Sara Lamelo Rios | Pedagogical Design: Minerva Deyanira Osgood | Graphic Design: VXF Studios SAS | Toolkit Content Technical Review: Bladimir Ortiz; Daniel Pier

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Toolkit Supporting Videos

Find supporting videos for each unit of this toolkit here.

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Unit 1
What is Critical Thinking?

Before we start analyzing the methodologies to promote critical thinking in the classroom, let's create a common ground about the concept of critical thinking by analyzing some examples, definitions, characteristics and methodologies. In this Unit we will learn:

Definitions of Critical Thinking

To think critically is to identify and solve problems; formulate, evaluate and use information; test ideas based on relevant criteria; recognize one's own judgments and put them to the test in light of new information or arguments; and communicate effectively with others.

The National Council for Excellence in Critical Thinking (1987) states: "Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action."

A simpler definition comes from Eggen and Kauchak (2006): "The ability and disposition to make and assess conclusions based on evidence."

The definition from the National Council for Excellence in Critical Thinking seems to be the most appropriate for teaching. It encompasses the skills appropriate at the middle and high school levels and is the one used for this Toolkit.

What Critical Thinking is not

Humans naturally think, and thinking happens without planning or conscious thought. Babies think, and even when they don't have the words to express their thoughts, we know thinking is happening as they are trying to figure out their world and how it works. However, higher order thinking is not something that happens naturally; critical thinking is not necessarily a natural process.

Lau and Chan (2014) state that "Critical thinking is not a matter of accumulating information. A person with a good memory and who knows a lot of facts is not necessarily good at critical thinking."

Critical thinking is not criticism, particularly the common understanding of criticism as always negative. A reviewer who is critical, who offers an unfavorable evaluation of a work of art or of a theory, may or may not be using critical thinking. If the review reflects a careful analysis based on objective criteria, it is an example of critical thinking; if it is an emotional response reacting to a viewpoint opposed to the reviewer's own viewpoint, it is not an example of critical thinking.

Although similar, critical thinking is not critical pedagogy, which is a term that applies to a number of educational perspectives that address the issue of power in teaching and learning. (Steinhardt School of Culture, Education and Human Development).

Characteristics of Critical Thinking and Critical Thinkers

According to (Paul and Elder, 2013) People who possess critical thinking skills...

- Raise important questions and problems, expressing them with clarity and precision.
- Collect and evaluate information that is relevant to the situation.
- Interpret information effectively.
- Come to well-reasoned conclusions and solutions.
- Contrast the solution against relevant criteria and standards.
- Think open-mindedly.
- Recognize and assess their assumptions, implications and practical consequences.
- Communicate effectively with others in figuring out solutions to complex problems.

In The Miniature Guide to Critical Thinking Concepts and Tools, Richard Paul and Linda Elder state, "Critical thinking is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness."

These values are used in decision-making at all levels of life. From early on in their education, students can practice these values and lay the groundwork for using critical thinking in their day-to-day experiences.

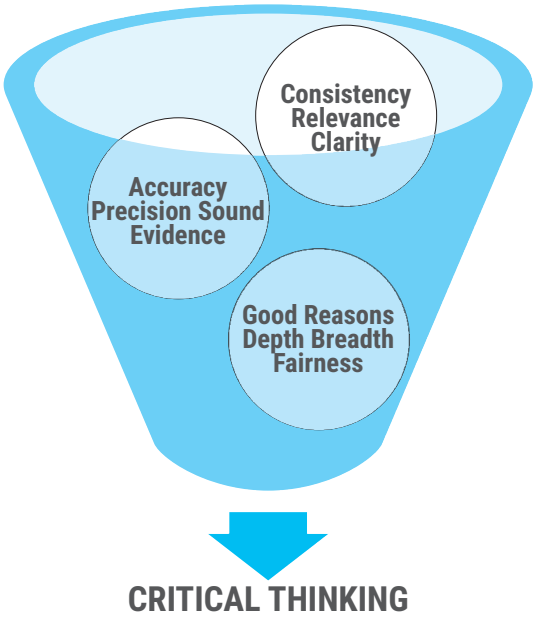

Image 1. Critical Thinking Funnel

Critical thinking "entails the examination of structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue; assumptions; concepts; empirical grounding; reasoning leading to conclusions; implications and consequences; objections from alternative viewpoints; and frame of reference" (The Critical Thinking Community, 2014). Thus, critical thinkers considering whether to enter university will not simply do what their parents want them to do or what their friends are doing, as such thinking fails to examine many of the important elements of the decision. Critical thinkers will examine factors such as their own disposition toward and ability in school, the financial benefits (a higher salary in the long term) and drawbacks (costs of tuition and expenses), the social benefits of attending or not attending, whether the arguments their friends and parents make have merit, and more. They will even consider whether their own decision-making process is sound. This process is much more likely to lead to the right decision for that individual.

These structures and processes of reasoning can be taught in the classroom. Critical thinking leads to conscious consideration of ideas and solid decision-making that students need to make sense of their world and succeed in a rapidly evolving society.

When teachers consciously reinforce critical thinking in the classroom, it becomes ingrained in students' habits in and outside of school. In this way, it becomes a readily available tool for approaching information. Optimally, "Critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking." (Paul and Elder, 2014).

Critical thinking skills

Bloom's taxonomy is a valuable and widely used tool that describes different levels of thinking. The six levels described in Bloom's taxonomy are divided into higher order thinking and lower order thinking. Critical thinking integrates these two components:

1) Ability to generate information (lower order)
2) Using those skills to guide behavior (higher order)

Thinking critically about a set of facts or other information to make an informed decision requires that the thinker go through all six cognitive levels defined by Bloom:

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation

Major decisions or life changes that are made without going through this process may not be the best and most informed decisions and may show less than satisfactory results.

The following chart shows each level associated with verbs and guiding questions. Each level is identified by a color. In units 5 and 6, the colors will help you easily identify in the activities which skill level the teacher is developing.

CRITICAL THINKING SKILLS				
Knowledge **Identification and recall of information**	Define Fill the blank List Identify	Label Locate Match Memorize	Name Recall Spell	State Tell Underline
	Who__? What__? Where__? When__?		How__? Describe__. What is__?	
Comprehension **Organization and selection of facts and ideas**	Convert Describe Explain	Interpret Paraphrase Put in order	Restate Retell in your own words Rewrite	Summarize Trace Translate
	Re-tell ____ in your own words What is the main idea of __?		What differences exist between__? Can you write a brief outline?	
Application **Use of facts, rules, and principles**	Apply Compute Conclude Construct	Demonstrate Determine Draw Find out	Give an example Illustrate Make Operate	Show Solve Sate a rule or principle use
	How is__an example of__? How is__related to__? Why is __significant?		Do you know of another instance where__? Could this have happened in __?	
Analysis **Separation of a whole into components**	Analyze Categorize Classify Compare	Contrast Debate Deduct Determine the factors	Diagram Differentiate Dissect Distinguish	Examine Infer Specify
	What are the parts or features of__? Classify __ according to__? Outline/diagram/web/map__?		How does __ compare/contrast with? What evidence can you present for__?	

Synthesis **Combining ideas to form a new whole**	Change Combine Compose Construct Create Design	Find an unusual way Formulate Generate Invent Originate Plan	Predict Pretend Produce Rearrange Reconstruct Reorganize	Revise Suggest Suppose Visualize Write
	What would you predict/infer from__? What ideas can you add to__? How would you create/design a new__?		What solutions would you suggest for__? What might happen if you combined__with__?	
Evaluation **Developing opinions, judgements, or decisions**	Appraise Choose Compare Conclude	Decide Defend Evaluate Give your opinion	Judge Justify Prioritize Rank	Rate Select Support Value
	Do you agree that __? Explain. What do you think about __? What is most important?		Prioritize__according to__? How would you decide about__? What criteria would you use to assess__?	

Unit 2
Collaboration and Critical Thinking Methodologies

In this unit, we will analyze four collaborative methodologies to promote critical thinking in middle and high school classrooms. First, we will cover the importance of collaborative learning and its relationship with critical thinking, and then we will study each methodology, asking, How does it look in the classroom? How can teachers implement it? We will then consider examples of best practices.

Collaborative Learning Like Cross Cutting Axis to Facilitate Critical Thinking

Collaborative learning is an educational approach to teaching and learning that involves groups of students working together to solve a problem, complete a task, or create a product. Each one of these (problem solving, task completion and product creation) is more meaningful if students have the opportunity to address them through methodologies that promote critical thinking.

According to Jeanne Marcum Gerlach, "Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves. It is through the talk that learning occurs." (Gerlach, 1994) In this sense, is fair to state that critical thinking benefits from collaboration, as collaboration benefits from critical thinking.

There are many approaches to collaborative learning. A set of assumptions about the learning process from Barbara Leigh Smith and Jean T. MacGregor (1992) describes the relationship between collaborative learning and critical thinking:

1. Learning requires a challenge that opens the door for the learner to actively engage his/her peers, and to process and synthesize information rather than simply memorize and regurgitate it.

2. Learners benefit when exposed to diverse viewpoints from people with varied backgrounds.

3. Learning flourishes in a social environment where conversation between learners takes place. During this intellectual gymnastics, the learner creates a framework and meaning to the discourse.

4. In the collaborative learning environment, the learners are challenged both socially and emotionally as they listen to different perspectives, and are required to articulate and defend their ideas. In so doing, the learners begin to create their own unique conceptual frameworks and not rely solely on an expert's or a text's framework. Thus, in a collaborative learning setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and be actively engaged.

The idea of changing one's teaching practices might seem overwhelming at first, but as Smith and MacGregor state, "In collaborative classrooms, the lecturing/listening/note-taking process may not disappear entirely, but it lives alongside other processes that are based in students' discussion and active work with the course material."

According to Melinda Dooly (2014), designing classroom environments and instructional practices around a collaborative learning model sets the stage for critical thinking. Here is why:

- Collaborative learning requires working together toward a common goal. Collaboration entails the whole process of learning. This may include students teaching one another, students teaching the teacher, and of course the teacher teaching the students, too.

- More importantly, it means that students are responsible for one another's learning as well as their own and that reaching a shared goal implies that students have helped each other to understand and learn.

- The learning process must be understood as something a learner does by activating already existing cognitive structures or by constructing new cognitive structures that accommodate new input. Learners do not passively receive knowledge from the teacher; teaching becomes a transaction between all the stakeholders in the learning process.

Methodologies to promote critical thinking

The following sections will discuss four methodologies to promote critical thinking through collaborative learning. They are the Socratic seminar, Academic Conversation Skills, Project Based Learning and Service Learning. These methodologies can be used alone or in conjunction with each other as parts of a curriculum which encourages critical thinking at every possible juncture.

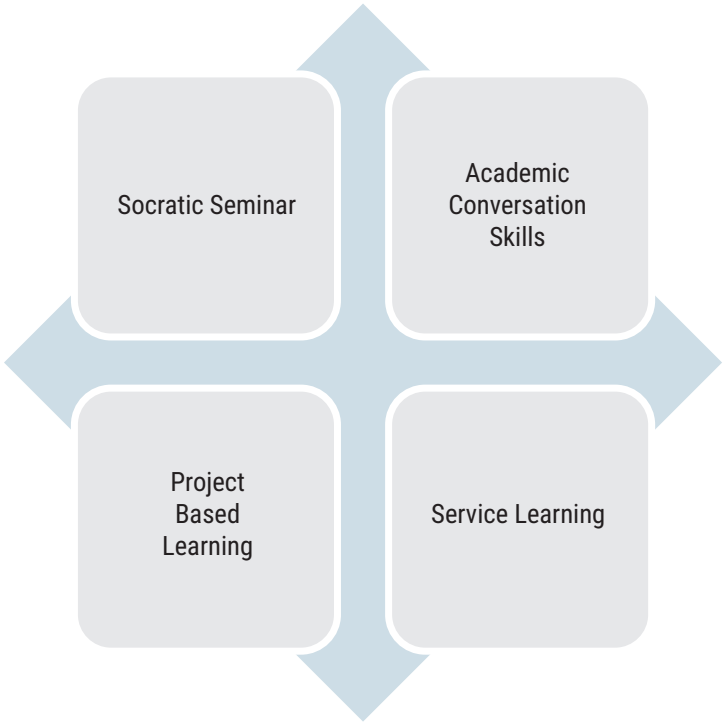

Image 2. Four methodologies to promote critical thinking through collaborative learning.

Socratic seminar

A Socratic seminar is an activity where students are given opportunities to examine a common piece of text, whether it is in the form of a novel, poem, art print, or piece of music. After actively reading the common text, open-ended questions are posed.

Open-ended questions allow students to think critically, analyze multiple meanings in text, and express ideas with clarity and confidence. A certain degree of emotional safety is felt by participants when they understand that this format is based on dialogue and discussion, not debate.

Dialogue during the Socratic seminar is exploratory and involves the suspension of biases and prejudices. Discussion and debate are transfers of information designed to win arguments and bring closure. Once teachers and students learn to dialogue, they find that the ability to ask meaningful questions that stimulate thoughtful interchanges of ideas is more important than "the answer."

Participants in a Socratic seminar respond to one another with respect by carefully listening and not interrupting. Students are encouraged to paraphrase essential elements of another's ideas before responding, either in support of or in disagreement. Members of the dialogue look each other in the eyes and use each other's names. This simple act of socialization reinforces appropriate behaviors and promotes team building.

Socratic seminars are named for their embodiment of the belief in the power of asking questions, and they prize inquiry over information and dialogue over debate. The idea is that it is more important to enable students to think for themselves than to fill their heads with "right" answers. Socrates regularly engaged his students in dialogues by responding to their questions with questions, instead of answers, to encourage divergent thinking rather than convergent.

How do I implement Socratic seminar in my classroom?

The International Literacy Association and the National Council of Teachers of English in the United States, offers this list of the elements of a Socratic seminar:

- **Choosing a text:** Socratic seminars work best with authentic texts that invite authentic inquiry—an ambiguous and appealing short story, a pair of contrasting primary documents in social studies, or an article on a controversial approach to an ongoing scientific problem.

- **Preparing the students:** While students should read carefully and prepare well for every class session, it is usually best to tell students ahead of time when they will be expected to participate in a Socratic seminar. Because seminars ask students to keep focusing back on the text, you may distribute sticky notes for students to use to annotate the text as they read.

- **Preparing the questions:** Though students may eventually be given responsibility for running the entire session, the teacher usually fills the role of discussion leader as students learn about seminars and questioning. Generate as many open-ended questions as possible, aiming for questions whose value lies in their exploration, not their answer. Elfie Israel recommends starting and ending with questions that relate more directly to students' lives so the entire conversation is rooted in the context of their real experiences.

- **Establishing student expectations:** Because student inquiry and thinking are central to the philosophy of Socratic seminars, it is an authentic move to include students integrally in the establishment of norms for the seminar. Begin by asking students to differentiate between behaviors that characterize debate (persuasion, prepared rebuttals, clear sides) and those that characterize discussion (inquiry, responses that grow from the thoughts of others, communal spirit). Ask students to hold themselves accountable for the norms they agree upon.

- **Establishing your role:** Though you may assume leadership through determining which open-ended questions students will explore (at first), the teacher should not see him or herself as a significant participant in the pursuit of those questions. You may find it useful to limit your intrusions to helpful reminders about procedures (e.g."Maybe this is a good time to turn our attention back the text?" "Do we feel ready to explore a different aspect of the text?"). Resist the urge to correct or redirect, relying instead on other students to respectfully challenge their peers' interpretations or offer alternative views.

- **Assessing effectiveness:** Socratic seminars require assessment that respects the central nature of student-centered inquiry to their success. The most global measure of success is reflection, both on the part of the teacher and students, on the degree to which text-centered student talk dominated the time and work of the session. Reflective writing asking students to describe their participation and set their own goals for future seminars can be effective as well. Understand that, like the seminars themselves, the process of gaining capacity for inquiring into text is more important than "getting it right" at any particular point.

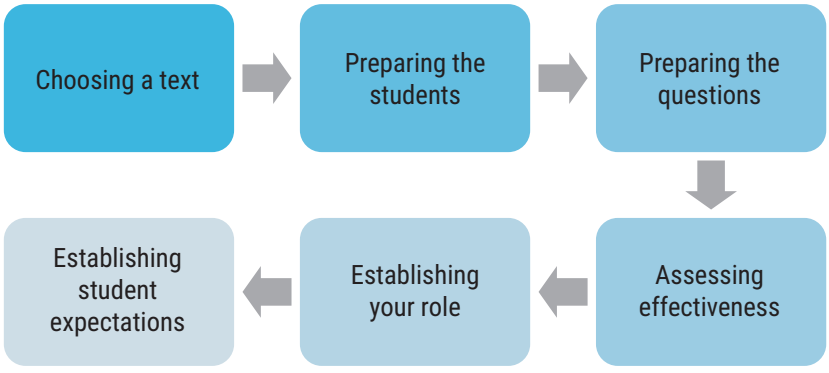

Image 3. Elements of a Socratic Seminar.

Academic Conversation Skills

Academic conversation skills is a methodology initially created to support English Language Learners as they relate to complex academic texts. Because of its potential to develop critical thinking competencies, it has become more popular in general classrooms, and more and more teachers are using it as a methodology to promote critical thinking in the classroom.

> During an academic conversation exercise, the teacher presents a text and provides students with a series of questions, phrases, and even hand gestures they can use as they analyze the text. As in the Socratic seminar, students interact under a set of rules that aim to keep the conversation as a dialogue and not as a debate that one of them must win.

The reasoning behind using the Academic Conversations methodology is that classroom talk and discussion are usually teacher-dominated. According to Zwiers and Crawford (2011), most classrooms spend less than two minutes per hour on classroom conversation or discussion.
Most talk does not advance beyond short question-and-answer sessions.

The academic conversation skills method works across all the subject areas by focusing on five core communication skills that help students and teachers hold productive academic conversations.

These skills include:

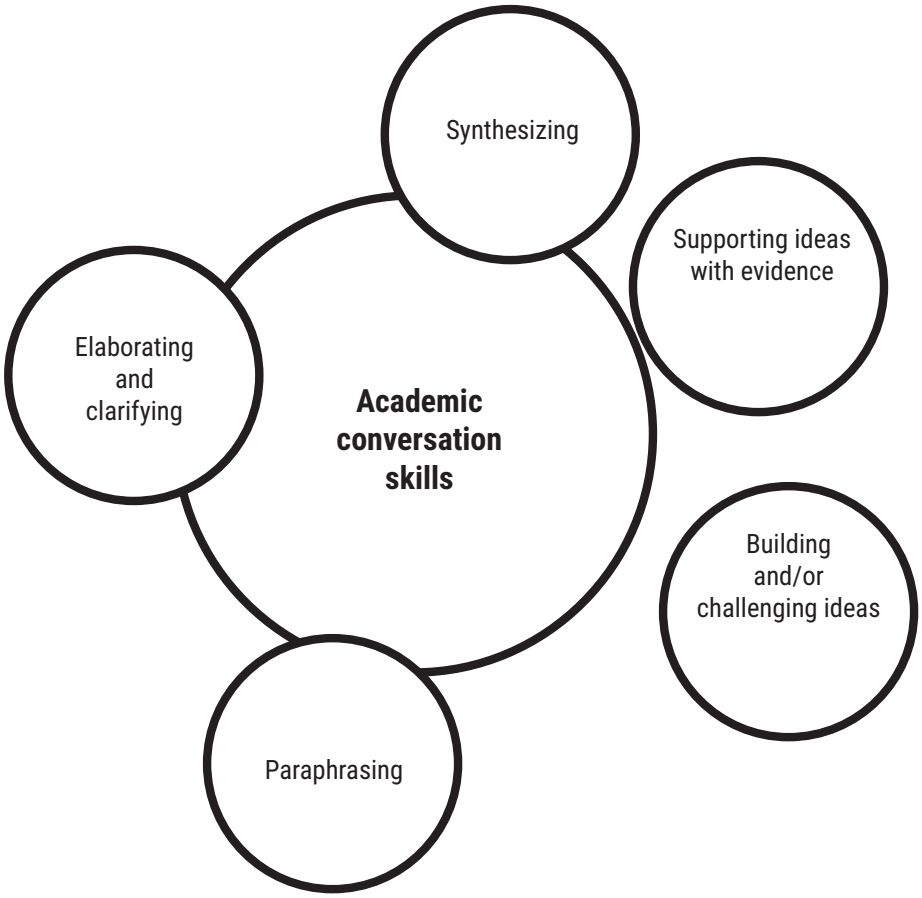

Image 4. Five core communication skills.

All of the skills mentioned above lead to the development of critical thinking skills. Look at the image below for a more detailed list of the skills promoted through academic conversations:

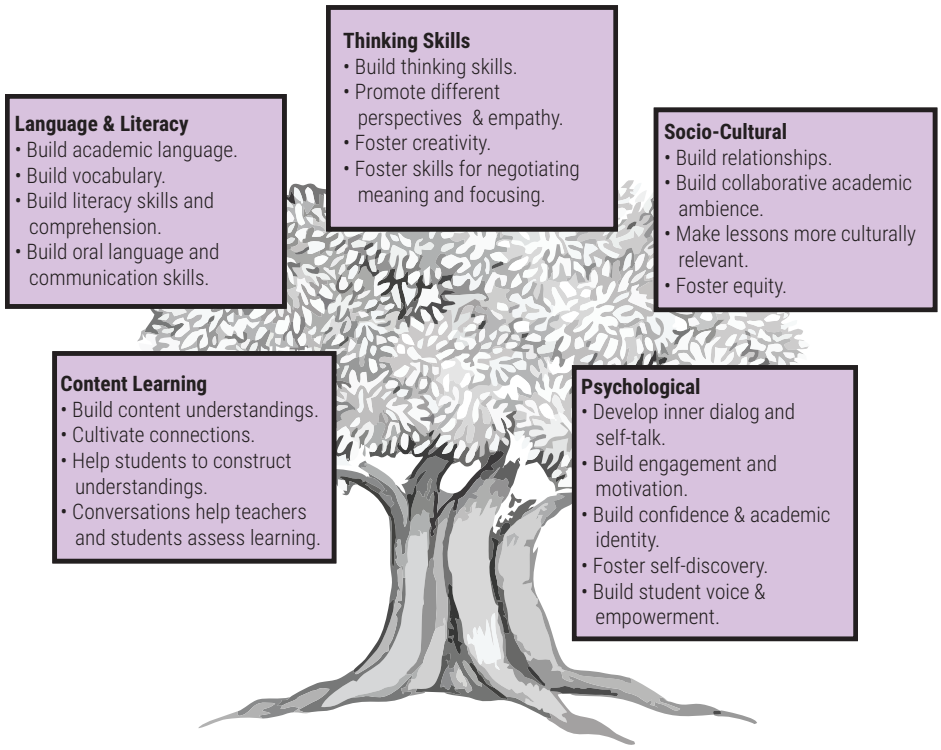

Image 5. Skills promoted through academic conversations (Image retrieved from: http://aldnetwork.org/page/SAUSD).

How do I implement academic conversation skills in my classroom?

One of the necessary elements to conduct an activity to develop academic conversation skills is the placemat. Teachers may use an existing placemat such as this one from Zwiers and Crawford or create their own (see image on next page).

1. Make sure students are familiar with a few starting and responding prompts. Students can create flash cards, posters, or different materials that can be present at all times in the classroom, so they become familiar with the prompts as they integrate them into their daily vocabulary.

2. Present a text, a case, a story or a topic on which students can build conversations to practice the five skills.

3. Allow students to take notes as they initiate a conversation to help them ask or respond to questions.

4. Ideally, practice some academic conversations with you, the teacher, serving as one participant and the whole class the other participant. This modeling exercise will provide them with tools to conduct an academic conversation on their own.

5. As students conduct their own academic conversations in pairs, walk around the classroom to monitor the activity and take notes for assessment.

6. At the end of the activity ask students how they felt about the activity, if they increased their knowledge about the topic, if there are any other skills they need more practice on, etc.

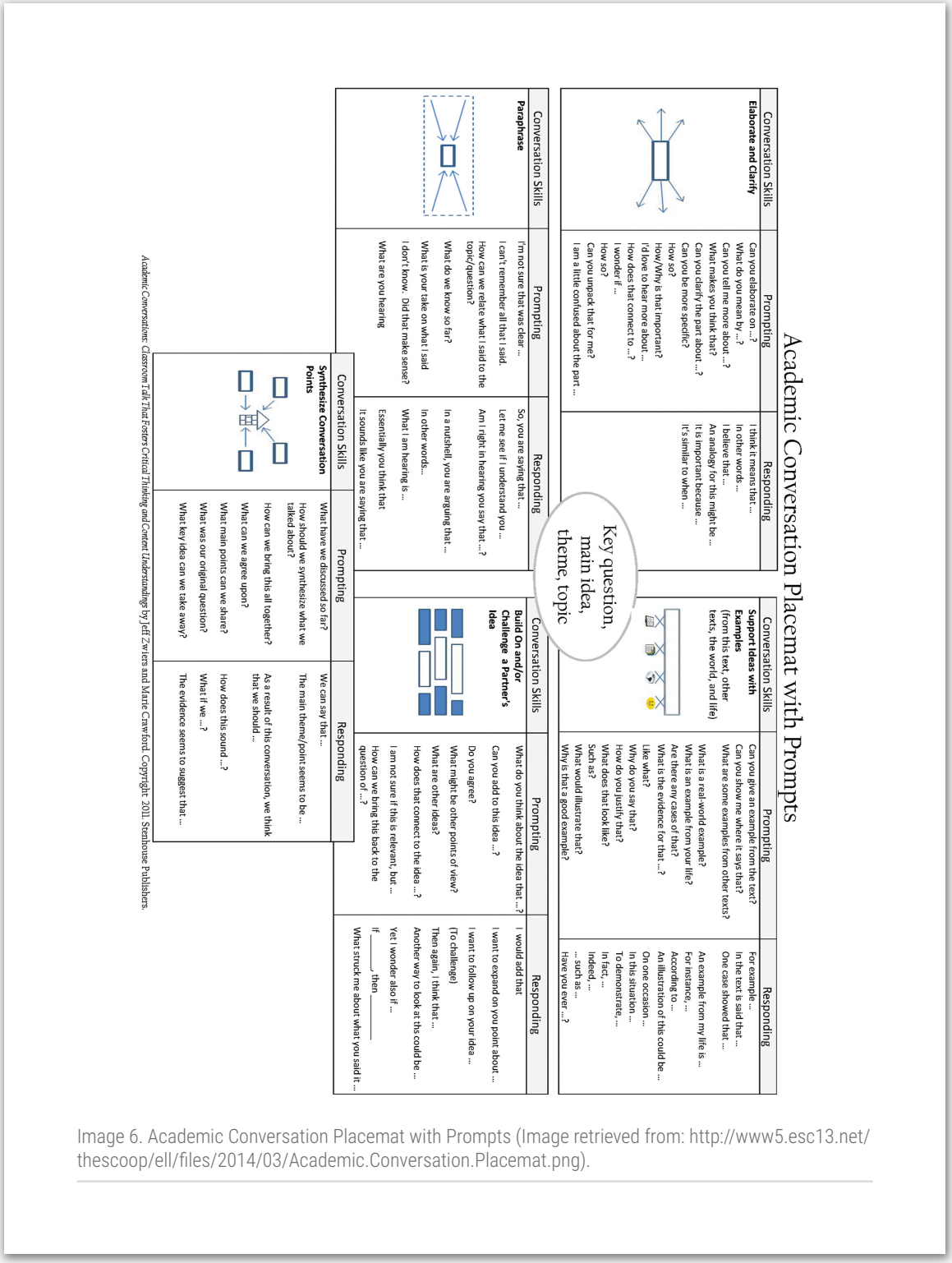

Image 6. Academic Conversation Placemat with Prompts (Image retrieved from: http://www5.esc13.net/thescoop/ell/files/2014/03/Academic.Conversation.Placemat.png).

Project-based learning

Project-based learning (PBL) is another method for involving students in critical thinking.

The Buck Institute for Education[1], a leading organization in project-based learning, defines PBL as "a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to a complex question, problem, or challenge." Students undertaking projects investigate, explore, challenge or create real world works of art, questions, phenomena, controversies, or events. Although each project is different, they all have one thing in common: the project is a rigorous learning experience. Like all collaborative learning, project-based learning builds deep conceptual understanding and prepares students for the demands of life, citizenship and work.

Like the Socratic seminar, project-based learning has inherent, essential elements, as identified by the Buck Institute for Education:

1. Significant content. At its core, the project is focused on teaching students important knowledge and skills, derived from standards and key concepts at the heart of academic subject areas.

2. 21st century skills. Students build skills valuable for today's world, such as problem solving, critical thinking, collaboration, communication, and innovation, which are taught and assessed.

3. In-Depth Inquiry. Students are engaged in a rigorous, extended process of asking questions, using resources, and developing answers.

4. Driving Question. Project work is focused by an open-ended question that students explore or that captures the task they are completing.

1. Buck Institute for Education. What is Project Based Learning (PBL)? Retrieved from: http://bie.org/about/what_pbl on August 31st, 2014.

5. Need to Know. Students see the need to gain knowledge, understand concepts, and apply skills in order to answer the Driving Question and create project products, beginning with an Entry Event that generates interest and curiosity.

6. Voice and Choice. Students are allowed to make some choices about the products to be created, how they work, and how they use their time, guided by the teacher and depending on age level and PBL experience.

7. Revision and Reflection. The project includes processes for students to use feedback to consider additions and changes that lead to high quality products, and think about what and how they are learning.

8. Public Audience. Students present their work to other people, beyond their classmates and teacher.

A shift toward Project-based learning might sound like a tremendous task. In this video from Edutopia, middle school teachers narrate their experiences implementing PBL, demonstrating that though such a shift is challenging, it is both possible and rewarding.

Video[2]: https://youtu.be/2Ar6cmhwR5o?list=PL3B4723DD57BCB41A

2. Edutopia. Project Learning. Teachers Discuss the Daily Challenges. Under Youtube Standard License.

How do I implement project-based learning in my classroom?

The process for project-based learning implementation in the classroom is in some ways similar to that of Socratic seminar, where students have a voice and are (for the most part) in charge of their own learning process.

In ***Teachers as Classroom Coaches***, Andi Stix and Frank Hrbek identify nine steps for project-based learning:

1. The teacher-coach sets the stage for students with real-life samples of the projects they will be doing.

2. Students take on the role of project designers, possibly establishing a forum for display or competition.

3. Students discuss and accumulate the background information needed for their designs.

4. The teacher-coach and students negotiate the criteria for evaluating the projects.

5. Students accumulate the materials necessary for the project.

6. Students create their projects.

7. Students prepare to present their projects.

8. Students present their projects.

9. Students reflect on the process and evaluate the projects based on the criteria established in Step 4.

Service learning

Service learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (Learn and Serve America National Service Learning Clearinghouse).

Service learning is a process of involving students in community service activities combined with facilitated means for applying the experience to their academic and personal development. It is a form of experiential education aimed at enhancing and enriching student learning in course material. When compared to other forms of experiential learning like internships and cooperative education, it is similar in that it is student-centered, hands-on and directly applicable to the curriculum.

The critical difference and distinguishing characteristic of service learning is its reciprocal and balanced emphasis on both students learning and addressing real needs in the community. Course learning objectives are linked to meaningful human, safety, educational, and environmental needs that are co-determined with community partners and service recipients.

Course materials such as lectures, readings, discussions, and reflection activities supplement the student service. In turn, the service experience is brought back to the classroom to enhance the academic dialogue and student comprehension. Students work on real problems that make academic learning relevant while simultaneously enhancing their social skills, analytical ability, civic and ethical responsibility, self-efficacy, and future career development.

Service learning can be incorporated into the classroom by offering students individual service opportunities with community agencies, or by creating project-based service activities for a group of students or for the entire class.

The most meaningful service learning activities are developed through partnership and dialogue between the szchool and the community organizations students know and support[3] .

What are the benefits of Community Service Learning for Middle School Students?

- Students receive an invaluable learning experience outside of the normal classroom setting.
- Service learning places curricular concepts in the context of real-world situations.
- Students analyze, evaluate, and synthesize these concepts using problem-solving skills while at the same time helping their community.
- Students generate positive school-community relations and relations within the school.
- Students experience the satisfaction of helping people.

Image 7. Picture by VISION service Adventurers under Creative Common License on Flickr.

3. Davis, S. Et Al, "Faculty Resource Guide for Service Learning." Retrieved from http://www.uncfsu.edu/Documents/Civic-Engagement/resource_guide/Faculty_Resource_Guide.pdf on August 31st, 2014.

When considering possible service learning projects, ask[4]:

1. Who benefits from this service?
2. How does the activity relate to what we are studying?
3. How will it enhance our exploration of the topic?
4. How will it enhance our ability to think critically about the topic through actions such as analyzing, evaluating, and synthesizing?
5. What logistical challenges do we face?

Image 8. Picture by: Baxter, Judy under Creative Common License on Flickr.

4. "2013 - 2014 Community Service Learning for Grades 9 – 12: Guidelines for Teachers, Students, and Parents". Henrico County Public Schools. Retrieved from: http://www.henrico.k12.va.us/Pdf/Instruction/CommunityServiceGuidelines9thru12.pdf on August 31st, 2014.

How do I Implement Service Learning in my classroom?

The steps for service learning are very similar to those in project- based learning. The key differences are that service learning activities are:

- Activities which benefit the school or community provided that the community organizations benefiting from the services are non-profit, with the exception of hospitals, nursing homes, or educational activities. Religious organizations may be among those benefiting in some cases.
- Activities which are not self-serving for a student or the student's family member.
- Activities which render service to individuals who cannot otherwise provide for themselves.

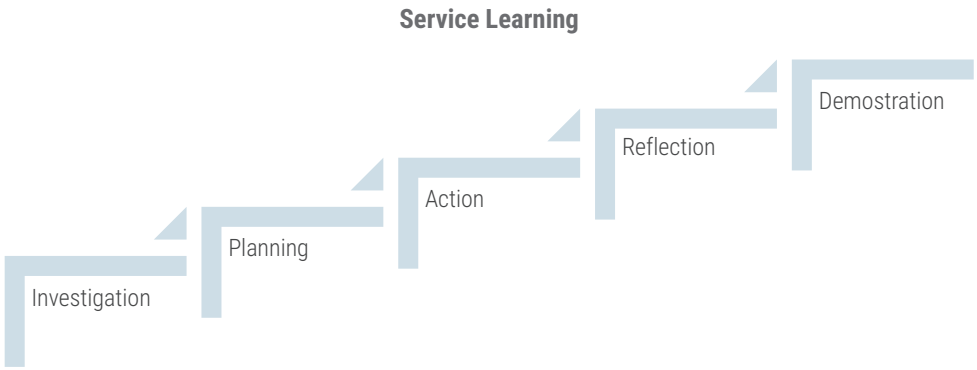

Image 9. The five essential steps of a service learning experience.

When Should I Choose Each Methodology?

Deciding which methodology to use will depend on the lesson objectives and the characteristics of each classroom. The methodologies presented in this toolkit can be adapted to almost any situation and may be used alone or in combination as your proficiency increases. The chart below outlines some pros and cons to consider when planning your lesson and deciding which methodology fits best.

Methodology	Pros	Cons
Socratic Seminar	Allows students to think critically, analyze multiple meanings in text, and express ideas with clarity and confidence. Students practice exploratory dialogue that involces the suspension of biases and prejudices. Promotes the ability to ask meaningful questions that stimulate thoughtful interchanges of ideas. Participants respond to one another with respect, carefully listening instead of interrupting. Reinforces appropriate behaviors and promotes team building.	It will take practice before students are comfortable playing the different roles for the seminar. It might seem as a passive activity, since it is expected for students to be seated for a certain period of time.

Methodology	Pros	Cons
Academic Conversation Skills	Helps students deepen their understanding of a topic in a profound and meaningful way. Promotes skills such as: elaborating and clarifying, supporting ideas with evidence, building and/or challenging ideas, paraphrasing, and synthesizing. Help student focus on a topic and explore it, while building, challenging, and negotiating important ideas with their peers. Students develop complex and abstract essential understandings in content areas.	At the beginning, the conversations might seem forced or unnatural, since is a new type of classroom interaction. It might take some time for students to become familiar with start and response prompts.

Methodology	Pros	Cons
Project Based Learning	Builds deep conceptual understanding, and prepares students for the demands of life, citizenship and work. Students are allowed to make some choices about the products to be created, how they work, and how they use their time, guided by the teacher and depending on age level and PBL experience. Students present their work to other people, beyond their classmates and teacher.	It takes time and likely resources that have to be found outside of the classroom. It might seem as very time consuming in relationship with the learning outcomes, which can be changed in the planning step, so every activity is intentional and connected to the curriculum.

Collaboration and Critical Thinking Methodologies

Methodology	Pros	Cons
Service Learning	Integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. It is student-centered, hands-on and directly applicable to the curriculum. Course learning objectives are linked to meaningful human safety, educational, and environmental needs that are co-determined with community partners and service recipients.	It will take time to find the partners in the community that could be interested in receiving the service. Similar to PBL, it might seem like it takes a lot of time and the learning outcomes are not tangible at the very beginning.

Unit 3
Teaching to Promote Critical Thinking Skills

No doubt teaching is a complex task, and we risk oversimplifying it by dividing the process into planning, delivering a lesson and assessing the results. Plenty of critical thinking skill-building opportunities exist outside of these three steps for the teacher who focuses on developing critical thinking skills. However, in order to make the analysis easier and to be able to provide tips to embed critical thinking in your classroom, we have divided the teaching process into three general steps:

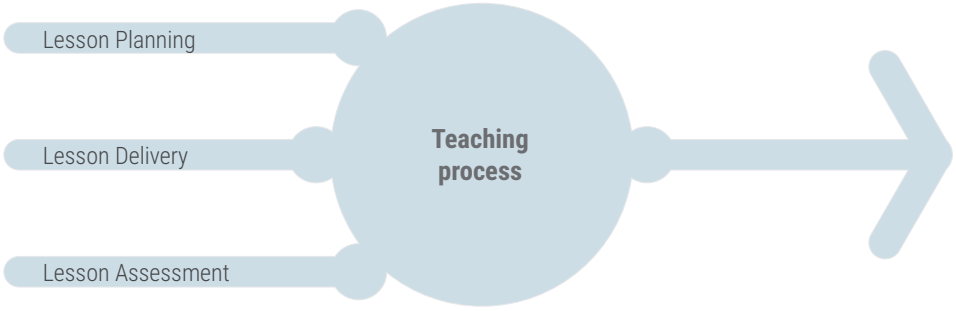

Image 10. Steps for teaching process.

Lesson Planning

Integrating methodologies that promote critical thinking skills in a lesson plan sounds like an easy task. But even before we take out our planning notebook or software to prepare for class, there are a few steps we need to follow to address successful strategies.

It is true that all lesson plans should be flexible; we cannot anticipate and be ready for every single scenario when working with young people. However, flexibility is not the same as improvisation --improvisation should only be used in the classroom when circumstances are out of our control as teachers, such as when we experience a technological failure or unexpected schedule change.

The time students spend in school is so valuable that no teacher should take a chance on improvisation; a very careful planning process will make the most out of the precious time we spend with students.

Let's divide the lesson planning process in three steps, and see how each one can be embedded with critical thinking:

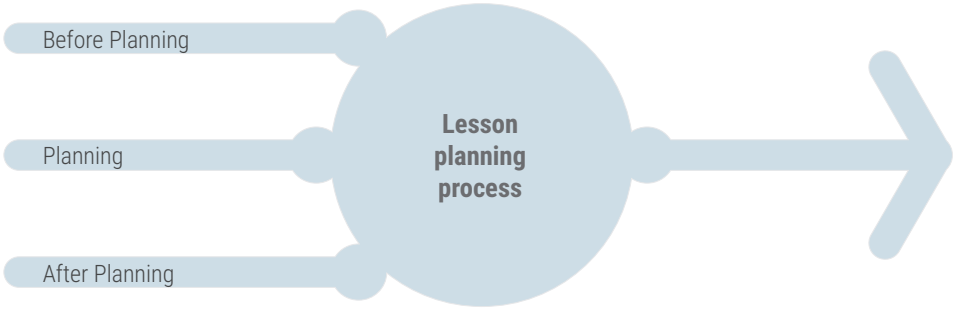

Image 11. Lesson planning process

Before Planning

- Get to know your students, and not only their grades and the notes provided by their previous teachers. Get to know their interests, their strengths, and their challenges as a group and individually when it comes to exercising critical thinking. Plan intentionally to achieve this purpose.

- Make sure you know what your students know. Take the time to establish priorities. Make sure they have the foundations for the introduction of a new topic. Spend time familiarizing them with the critical thinking methodology to be applied, so the learning experience can go just as planned. Meet your students where they are, or spend more time preparing them for the experience ahead. Help them assess their own level of knowledge in the topic at hand. Teach them to embrace this knowledge as a starting point, and don't punish them for not knowing something they don't.

- Create a learning environment where both students and teachers can learn from mistakes, offer alternative perspectives, challenge ideas respectfully, and support each other. This is the foundation for a safe learning environment. Criticism of students and/or their ideas undermines a learning community; it is not the way to support taking the chances critical thinking requires.

- Be prepared. Find resources in the form of people, objects, documents, media, websites, etc., that will enhance your lesson and extend students' learning when they want to explore the topic further as a result of the learning activity.

Planning

Identify the **goals, objectives, and competencies** of the unit/module/lesson.

- Identify the parts of the lesson your students already know (either because you taught and evaluated the lesson or because you confirmed it through a diagnostic test).
- Identify the skills students possess and those they need to learn to achieve the learning objectives and to demonstrate critical thinking.
- Identify the parts of the lesson that are completely new and those that are foundational for future lessons or courses.
- Make sure to include a space for notes in your lesson plan, so you can record what part of the lesson went well and what needs to be changed in the future. This is especially important on your first attempts to practice the critical thinking methodologies.

Identify **how you will measure** students' current knowledge (to begin the lesson or unit) and whether students have achieved the goals, objectives, and competencies you selected (at the end of, and perhaps during, the lesson or unit). Effective assessment begins not as the class nears the end of the lesson, but in the planning stage. Planning with the end in mind will provide some direction on the skills you need to evaluate as students implement one of the critical thinking methodologies.

- Select the types of assessments that will allow you to measure the particular learning objectives being addressed (see more on this in "Lesson assessment", below).
- Create your assessments before beginning the unit in class. In some cases, such as the case of a rubric, it is appropriate to share the assessment with the students at the beginning of the lesson or unit. Thus students have a clear idea what they are trying to achieve.

Identify the different ways you can **approach the content** to make sure you reach out to the diverse learners in your classroom, taking into account different learning styles, multiple intelligences, diverse abilities, and cultural diversity, among others. Diversified instruction is one of the best tools to model a teacher's own critical thinking process.

- Explore the relationship between the topic and your students' lives. Ask: Is it something that can be applied in the community? Does it relate to the age group I am teaching? Do students have some level of awareness about the topic?

- Match the competencies with the different ways you can address the topic. Describe the resources needed and the kind of interaction that will take place in the classroom or wherever the lesson will take place.

- Identify other subjects that are related to the topic and can be incorporated into a project in your class or with the support of other teachers in your school.

- Assign the time and resources needed for the activities.

Identify activities that will help the students achieve the learning objectives. The four methodologies described in this toolkit are among many activities that can promote critical thinking and result in students gaining a deep understanding of the content as opposed to a superficial memorization of facts and processes.

Activity: In your journal, describe your lesson planning process. How is it similar or different to the one suggested here? If needed, how will you modify it to incorporate the principles used in this toolkit?

Once you have planned and taught your class, make sure you get feedback from your students about what parts of the lesson helped them learn and what they liked or disliked, and the reasons. Whether through formal evaluation or through wrap-up activities, make sure you know what concepts are solidly in place and which ones need to be reinforced in the following lessons. Keep in mind that

mastering the critical thinking methodologies will take time and lots of practice on your and your students' part.

Many schools ask teachers to prepare a lesson plan for a week, a whole topic, or a month. This does not necessarily mean the plan is static and must be followed exactly as written. We cannot make assumptions when it comes to our students' learning, and must be flexible while avoiding improvisation if at all possible. One way to guarantee that a certain concept is truly understood is by repeating and reinforcing, not in isolation or through drills, but as part of a relevant learning opportunity.

Observe an example of a lesson plan that promotes critical thinking in the next table:

Goals | Objetives Competencies	Fundamental Skills	Previous Knowledge	Activities	Time	Materials
Use the relationship between particular words (e.g. Cause/Effect, Part/Whole, Item/Category) to better understand each of the words.	Reading	Concepts: Cause/Effect Part/Whole Item/Category	1. Ask students to get together in twos and find in the local newspaper a simple sentence where each one of the relationships is present. Write them on cards.	10 Mins	Blank Cards Newspapers
			2. Divide the group in three small groups and assign them a category: Cause/Effect, Part/whole, Item/Category. Give them all the cards that belong to each category and ask them to select one to study further. The topic they select should be somehow related to them.	10 Mins	
			3. Provide the news item where there is more information about the topic they selected. And ask them to identify the following:	20 Mins	

	• What happened? • Who is involved? • Where did it happen? • When did it happen? • Why is it important to you? • How does the topic im pact your lives? • What do each of you think about the topic? • How are your thoughts or feelings towards the subject after studying it, the same or different?	
	4. Ask each team to share the information about the news item and identify graphi-cally the concept.	10 Mins
	5. Wrap up by asking the students: "Why did we do this activity?" 6. Make sure they understand the concepts by providing some examples of identifying the word relationship.	5 Mins
NOTES:		

After Planning: Reflective Practice

Thoughtful reflection - by yourself, with colleagues, and with your students - is the key to continuously improving the quality of teaching strategies, lesson plans, and the learning environment, and is fundamental to model critical thinking to your students.

Here are some questions that will guide your reflection about the lesson applied:

- Was the goal of the lesson clear for the students? Can they articulate the goal before, during and after the lesson?
- Did I explicitly point out if there was an evaluation going on during the activity?
- Were the students aware of the topic or learning objective I was evaluating?
- Were the students on task at all times? If not, when were they on task, and when were they distracted? What did I do to keep them on task? What was different about my approach or the activity when they were not on task? What notes do I need in my plan so I can repeat my success or try something new?
- What kind of support did I provide during the activity? Did I plan this support? Was I ready to provide this support?
- Did something go wrong? In what part of the lesson plan? Why? How did I solve the problem? What will I plan differently next time?
- Is there anything I'm especially proud of in the student-student interaction imbedded in the lesson or unit? The student-teacher Interaction? The student-content interaction? What environment, strategies, preparation, or facilitation made this interaction possible? I might want to repeat this next time!

- Did I plan some time to celebrate the students' efforts and their success?
- Were the expectations, rules and procedures clear for students at all times?
- Did the classroom arrangements and assigned activities lead to active interaction and engagement?

Lesson Delivery

For some teachers, the main focus of the teaching and learning process is the delivery of a lesson; but for others, the delivery is just a reflection of how well the lesson was planned, and so the focus of the teaching and learning process is the planning. Some argue that assessment is the most important element of teaching, because it will measure the effectiveness of the planning and the delivery. What is universally understood is that critical thinking can be infused in each one of these three elements.

In spite of the abundant research that shows the limited effectiveness of lecturing, this is one of the teaching methods that prevails nowadays in the middle and high school classrooms in many parts of the world. An attempt to apply critical thinking methodologies is a great opportunity to change the state of things and to shift the responsibility of the student´s learning to the students themselves.

In some schools, teachers are already working collaboratively to change teaching practices and implement methodologies that foster critical thinking.

Video: Watch this video on how teachers are using Project Based Learning in high school (4:54).
http://video.seattletimes.com/3268797387001/

The second part of this toolkit covers four methodologies to develop critical thinking. These collaborative methodologies are Socratic Seminar, Academic Conversation Skills, Project Based Learning and Service Learning. We touched on the appropriate classroom setting for using these methodologies, including creating a learning environment that is safe and encouraging. But applying critical thinking methodologies in the classroom cannot be done without re-defining the roles of the teacher and the student.

One such redefinition is to think of the student who has ingrained critical thinking skills as what The Critical Thinking Community calls a master student. The Critical Thinking Community identifies a series of strategies to help students become a master student, and the strategies are explained in a document you can find in the complementary readings at the end of this Toolkit.

These strategies should be present in any lesson because they will help students practice, and acquire the habit of, critical thinking. For this toolkit, we consider the strategies from the perspective of the teacher, since in the teaching methodologies we explored, teachers are active participants in the learning community. The strategies are:

- Model the form of thinking you want your students to apply.
- Set time aside for questions, or develop your own methodology to handle students' questions.
- Become your students' coach. Acknowledge every effort to become educated thinkers.
- Make your classroom a Thinking Zone!
- Connect the contents to your students' lives.
- Give plenty of opportunities for peer work.
- Model questioning; question your questions and teach students effective questioning.
- Practice and model active listening.

Lesson Assessment

If we implement critical thinking methodologies as we deliver our lessons, then the assessment of those lessons must be consistent with the methodologies we use. We cannot assess critical thinking skills through traditional tools that do not capture what really happened in the classroom. Ask yourself: "Will my regular assessment capture the life skills students learned through collaborative learning?" These include skills such as academic conversations skills, visioning, active problem solving, leadership, and respectful disagreement.

If the answer is no, you can adapt your assessment tools to evaluate your students' growth in the area of critical thinking. At any stage of the assessment process, the tools can be infused with critical thinking principles. Generally, assessment falls into one of three categories based upon the purpose of the assessment: diagnostic, formative, and summative assessment.

Diagnostic Assessment

Knowing students' strengths and areas of opportunity for growth can help teachers plan better. Research shows that on average, a teacher asks 400 questions in a day. But our understanding of critical thinking naturally pushes us to examine the effectiveness of such questioning. Academic Conversation Skills can be a great diagnostic tool to assess students' breadth and depth of understanding -- without bombarding them with questions.

Here are the steps for using Academic Questioning as a diagnostic tool:

1. Talk to your students about the purpose of the activity. Find out what they know about the topic. Explain they will have the opportunity to ask questions with their peers and they can take notes.

2. Provide students with a list of questions to guide the conversation, and give them freedom to create their own questions as they learn.

3. Give students the opportunity to express what would they like to learn about the topic and share why they are interested.

4. Be prepared to ask a few questions to guide the conversation towards the objectives of the lesson if the discussion veers off track.

5. Remember that most of the questions and answers should come from the students themselves, and the answers may be 'right' or 'wrong' and change as the lesson unfolds. Note that students will likely change their minds and opinions as they gather and assess more information. Building knowledge as a group is a dynamic process, and is more meaningful than getting the 'right' answers from the teacher.

6. Take notes during the questioning. Use them as you plan your lessons, addressing those questions that need elaboration or clarification. When the lesson is finished, students can return to those questions again and again for reference, repetition, and revision.

7. Develop a system to capture participation and engagement in the academic conversation. The tool should capture not only the methodology, but the students' level of understanding and active learning.

Formative assessment

Formative Assessment can be used at any stage of the lesson, and is used to assess students' knowledge as the lesson progresses, rather than just at the end of a certain period (unit, quarter, semester, year). This allows the teacher to adjust the lesson plan based on students' actual progress.

Formative assessment is embedded in the strategies the teacher uses to deliver a lesson. It can be challenging to assess several parts of a lesson simultaneously, and that's when tools like rubrics or learning maps are useful.

A rubric is a list or, most often, a matrix that helps teachers and/or students identify the qualitative level of a student's performance, providing the teacher with an easy way to identify those students that have difficulty with parts of the lesson, and those parts of the lesson that are challenging for many students. For example, as students participate in a Socratic Seminar, the teacher will simultaneously use the rubric and take notes on the performance level of several students at a time. The teacher will be able to identify those areas in which most students need support and will be able to re-address the topic or activity that was challenging.

For more information about rubrics, watch the following video that explains the basics of rubric creation (5:32), and in the next section, find a rubric to assess a Socratic seminar.

Video: the basics of rubric creation (5:32).
https://www.youtube.com/watch?v=fvJ6qZkXDc4

Participation is Outstanding	• Participant offers enough solid analysis, without prompting, to move the conversation forward. • Participant, through his/her comments, demonstrates a deep knowledge of the text and the question. • Participant has come to the seminar prepared, with notes and a marked/annotated text. • Participant, through his/her comments, shows that he/she is actively listening to other participants. • She/he offers clarification and/or follow-up that extends the conversation. • Participant's remarks often refer to specific parts of the text.
Participation is very good	• Participant offers solid analysis without prompting. • Through his/her comments, participant demonstrates a good knowledge of the text and the question. • Participant has come to the seminar prepared with notes and/or a marked/annotated text. • Participant shows that he/she is actively listening to others. She/he offers clarification and/or follow-up.
Participation is satisfactory	• Participant offers some analysis, but needs prompting from the seminar leader and/or others • Through his/her comments, participant demonstrates a general knowledge of the text and the question • Participant is less prepared, with few notes and no marked/annotated text • Participant is actively listening to others, but does not offer clarification and/or follow-up to others' comments • Participant relies more upon his/her opinion, and less on the text to drive his/her comments
Participation is not satisfactory	• Participant offers little commentary. • Participant comes to the seminar ill-prepared VVwith little understanding of the text and question. • Participant does not listen to others, offers no commentary to further the discussion.

It is always a good idea to present students with the rubric in advance, so they understand the grading range, skill set evaluated, and performance criteria.

Students can also help develop a rubric, or you can create a critical thinking activity by showing students the criteria (on the right) and having them categorize them into the appropriate assessment blocks (on the left). You may ask students to use the rubric for self-assessment and/or peer-to-peer assessment. If possible, avoid the "not satisfactory" level when creating or adapting your rubrics, so that students will avoid the temptation to do the bare minimum.

When using formative assessment, it is important to keep in mind that we have many formal and informal tools at our disposal. Informal tools such as casual conversation with the students, observation, questions and answers, homework, reflection, and peer critique can often provide assessment information that formal tools do not. No matter what tools we use, the objective is the same - to promote effective critical thinking skills. Tasks must reflect this primary objective; avoid focus on memorizing or copying information from books or from the the internet. In the beginning it will take time to adapt assessment tools that use the lens of critical thinking, but eventually it will become easier, for you and for the students.

Summative Assessment

Although formative assessment will provide you with useful data about student learning, most schools require the use of summative assessment tools. Rubrics can be used for both, but an example of a summative assessment tool that will promote critical thinking is a portfolio, a collection of a student's work created over the course of a lesson, project, or time period as evidence of the student's learning.

According to Paulson, Paulson and Meyer, (1991): "Portfolios offer a way of assessing student learning that is different than traditional methods. Portfolio assessment provides the teacher and students an opportunity to observe students in a broader context: taking risks, developing creative solutions, and learning to make judgments about their own performances." These contexts align closely with the students' ability to demonstrate critical thinking skills.

Belgrad, Burke & Fogarty state that portfolios can also be assessed in combination with a rubric, and the measure for a finished portfolio may include several of the following criteria which demonstrate critical thinking:

- Thoughtfulness (including evidence of students' monitoring of their own comprehension, metacognitive reflection, and productive habits of mind)
- Growth and development in relationship to key curriculum expectancies and indicators
- Understanding and application of key processes
- Completeness, correctness, and appropriateness of products and processes presented in the portfolio
- Diversity of entries (e.g., use of multiple formats to demonstrate achievement of designated performance standards)

Teachers and students can collaborate to establish and prioritize the criteria that will be used for assessment, in both modalities: formative assessment and summative assessment.

Finally, it is recommended that some form of oral discussion or investigation be included as part of the summative assessment. This component can include not only the student and the teacher, but also the school community.

If Project Based Learning is implemented in the classroom, a portfolio may collect and reflect on evidence gathered over the course of the project, from inception to showcasing the final product. Service learning portfolios may include evidence such as measuring the impact of the project and cataloging opportunities for personal growth. These portfolios may include documentation of effective collaborative learning strategies, such as evaluations of a Socratic seminar or a transcript (or video) of academic conversation skills.

Portfolios highlight student accomplishment and success while underscoring established learning objectives. Evidence may include:

- Reports (drafts and final products)
- Peer evaluations (provide a form and a rubric for objective peer evaluation)
- Reflective notes (about their performance or experience and/or about the project itself)
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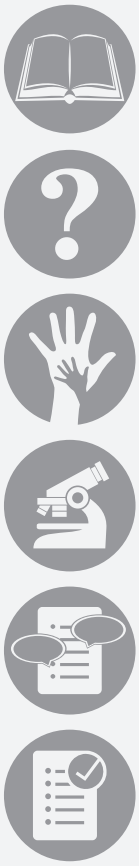
- Products (if applicable)
- Pictures (more manageable if the portfolio is electronic)
- Notes from the parents, other teachers, school community (testifying about the impact of the project in the community)

Unit 4 to 7
Putting it All Together



In this last part of the Toolkit, we will incorporate the four methodologies to promote critical thinking into a single project. We will explore why and how to integrate critical thinking in a transversal project that covers the subjects of Sciences, Mathematics, Reading and Writing and Citizenship Education.

Introduction

One of the premises of critical thinking is that it is important to understand and foster reflection about the interconnectedness of subject areas. We cannot promote critical thinking skills by isolating topics and asking students to reflect on them without considering their relationship to other subject areas. A critical thinker recognizes that life experiences are interrelated and that educational experiences are best when they reflect that reality. What we learn through one experience impacts what we know about many other areas of study.

The methodologies presented in Unit 2 (academic conversation skills, Socratic seminar, project-based learning and service learning) are a great asset for any teacher, from the elementary level to the college level. The methodologies are flexible and can be integrated with each other and with any course of study to promote critical thinking skills.

This final part of the toolkit demonstrates how the methodologies can be used to explore a real-world topic that is relevant to all the countries in the Americas and beyond. The subject is renewable energy, which is related to the global conversation around energy use patterns, consumption, environmental impact, and the autonomy of nations. The project discussed here explores the subject by combining the four methodologies with the subject areas of Sciences, Mathematics, Reading and Writing and Citizenship Education.

Think of the methodologies and the subject areas as building blocks. They can be blended in any combination to meet your learning objectives and the

authentic needs of your students.

The proposed project is ambitious, and may involve the active collaboration of teachers, if each teacher is responsible for a specialized subject, such as math or citizenship education. Sometimes a single teacher teaches multiple subjects, and then integration of the methodologies and subjects does not require as much peer-to-peer collaboration. Teacher collaboration models the collaborative learning process for students; it also offers teachers a chance to grow professionally and practice their own cooperative learning skills.

Summative Assessment

Subjects:	Science, Mathematics, Reading and Writing, Citizenship Education.
Length of the Project:	5 Classes
Age Group:	The project can be adapted to be applied with Middle School and High School Students.

OBJECTIVES:

- To achieve an understanding of the individual, family and community impact of power consumption.
- To achieve an understanding of sustainable energy and its potential uses in the community.
- To create surveys in order to collect information.
- To process information collected, make assumptions and challenge those assumptions.
- To present an argument on power conservation based on information col-

lected and processed.

- To understand inquiry learning
- To use different media to create awareness on excessive power consumption.

Day 1: Students will be introduced not only to a new science concept, but also to two new methodologies, in this case project-based learning and Socratic seminar. During day 1, they will have the opportunity to work in small groups, with the whole group and individually. Assessment will be conducted during the day by the teacher, students' peers and the students themselves. Critical thinking is in action as students start creating hypotheses, designing ways to collect relevant information and participating in the assessment of their own deliverables and those of their peers.

DAY 1

Subject	Activity / Step	Deliverable	Group Dynamic	Evaluation
Science	Introduction to Sustainable Energy. Basic Concepts. Multimedia.	Conceptual Map	Whole Group Individual work to create the map	Portfolio: Conceptual Map Self-assessment and Peer assessment.
Math	Develop a Survey to collect information about power consumption.	Survey	Whole Group	Formative Assessment.
Reading and Writing	Introduction to the Socratic Seminar. Present the methodology.		Whole Group	
Citizenship Education	Work with the survey and brainstorm possible causes and establish hypothesis about the information to be collected.	Cards with hypothesis	Groups of 3	Report. Teacher's assessment.

Day 2: Students are introduced to the methodology of service learning and practice a Socratic seminar. They start to see the connection of the project with their community and as a means to solve a problem and satisfy the need for relevant information about power consumption and sustainable energies.

DAY 2				
Subject	**Activity / Step**	**Deliverable**	**Group Dynamic**	**Evaluation**
Science	Sustainable Energies in Real Life. Students will use the methodology of Academic Conversations Skills in order to bring the theory to reality. They will analyze a news item on Sustainable Energies in the Caribbean Region.		Whole Group	Rubric Self-assessment
Math	Students will collect the information from the surveys and prepare graphics to represent it. As they work to graphically present their findings, ask them to reflect on their previous hypothesis.	Graphics	Pairs	Self-assessment Teacher's assessment.
Reading and Writing	Students will participate in a Socratic Seminar to analyze news items around sustainable Energies.	Reflective Writing	Whole Group Individual	Rubric Self-assessment
Citizenship Education	With the information found through the survey and the conclusions they reached through the Socratic Seminar, draft some messages to create community awareness.	Drafts	Groups of 3	Teacher's assessment. Peer-assessment

Day 3: Now that students know the four methodologies, have the scientific information about the topic, have real life information collected through the survey and probably have an informed opinion in the subject, they will devote this third and the following days to bring this information to the community and try to impact change in their families, the school community, and the open public.

DAY 3

Subject	Activity / Step	Deliverable	Group Dynamic	Evaluation
Science	After students studied the theory on Sustainable Energies and analyzed a news item about the urgency to stop using non renewable energies. They will create a mind map to represent the theory and how this information impacts their lives.	Mind map	Individual	Peer-assessment Teacher's assessment
Math	Students will compare the information they collected through the survey. Prove or disprove their hypothesis and get to informed conclusions about how to save energy at the individual, household and community level.	Table	Pairs	Self-assessment Teacher's assessment
Reading and Writing	Students will draft a speech to be presented to the school community about the information they learned and measures they can take in the school.	Draft	Individual	Rubric Self-assessment
Citizenship Education	Students will transform the information in simple, short messages that can be delivered through different media (i.e. radio, newspapers) and record radio spots or create brochures	Radio Spots / Brochures	Groups of 3	Teacher's assessment Peer-assessment

On Day 4, students get ready for the service learning part of the project, collect more relevant information, create different types of media to reach out to the community and organize the venue for their presentation.

DAY 4

Subject	Activity / Step	Deliverable	Group Dynamic	Evaluation
Science	Students will research the current status of sustainable energies use in their community. They will compare other communities with their own and present potential areas where sustainable energies can be implemented.	Research Free format	Groups of 3	Peer-assessment Teacher's assessment
Math	With the mathematical information they collected, students will present facts to be included in the information they will present to the school community.	List of facts	Pairs	Self-assessment Teacher's assessment
Reading and Writing	Students will finish their speech and with the information contained, they will create a brochure to present to their families and the school community.	Brochure	Pairs	Teacher's assessment
Citizenship Education	Students will contact the school principal and teachers to get a venue and time to present their information to the school community. They could reach out to media companies for support.	Event plan	Whole Group	Peer-assessment

The Project comes to an end on Day 5, when students present the information they learned through their research, their hypotheses and assumptions, their findings and recommendations to the community, in an effort to promote awareness and create change.

DAY 5

Subject	Activity / Step	Deliverable	Group Dynamic	Evaluation
Science	Students will continue their research of the current status of sustainable energies use in their community. They will compare other communities with their own and present potential areas where sustainable energies can be implemented.	Research Free format	Groups of 3	Peer-assessment Teacher's assessment
Math	Students will do reflective writing, to report what they've learned through this project and how knowing statistic information can change their future actions.	Reflective Writing	Individual	Self-assessment
Reading and Writing	Students will present their speech to the school community as well as the brochures or radio spots they created.	Presentation	Whole Group	Teacher's assessment Rubric
Citizenship Education	Students will celebrate the information event.	Event	Whole Group	Teacher's assessment Self-assessment

Why Teach Critical Thinking in the Citizenship Education Classroom?

When we think about the impact of our instruction in our students, we usually think about preparing them for their future, and then we try to provide them with the tools for their success at the academic level. We also tend to think about their future as responsible family members, as successful entrepreneurs or as valuable employees that will make a difference in a company or an organization.

We also need to ask ourselves what kind of citizens we are preparing to become members of a family, a neighborhood, a community, a country and the world. Our teaching will definitely, along with other factors, have an impact on their immediate and long term future as citizens, hence the importance of promoting the competencies to participate critically in the communities of which they will become members.

One of the dilemmas of implementing critical thinking has been whether to create a special subject to teach critical thinking, or to integrate a critical thinking approach across all the subjects in the curriculum. In the latter half of this toolkit, we have shown how, through project-based learning, it is possible to promote critical thinking across several subjects and methodologies.

On the other hand, citizenship education would be the perfect discipline for the teaching of critical thinking if concentrating our critical thinking efforts in one subject. The citizenship education curriculum would provide a framework to analyze real life scenarios where critical thinking skills will be put into action in a tangible way.

Civics-related subjects benefit from a critical thinking approach because of the broad variety of topics they cover. If the focus of the curriculum is history, students will benefit from analyzing historical events through the critical thinking lens and taking an informed position about them. If there is an emphasis on ethics, students will benefit from the teacher as an ethical role model, and from relating the theory to their real-life scenarios. One does not become ethical when reaching adulthood. The same is true regarding critical thinking skills: the earlier students are exposed to democratic citizenship skills, the more likely it is

that those skills will become part of their lives and stay with them in their future.

How to Teach Critical Thinking in the Citizenship Education Classroom

Our model lesson includes an activity using the methodology of service learning in order for the students to bring together the information collected through their science, math, and reading and writing classes and present it to the community in several formats in order to create awareness about power consumption and influence change in the community.

Day	Subject	Activity / Step	Deliverable	Group Dynamic	Evaluation
1	Citizenship Education	Work with the survey and brainstorm possible causes and establish hypothesis about the information to be collected.	Cards with hypothesis	Groups of 3	Report. Teacher's assessment
2	Citizenship Education	With the information found through the survey and the conclusions they reached through the Socratic Seminar, draft some messages to create community awareness.	Drafts	Groups of 3	Teacher's assessment. Peer-assessment.
3	Citizenship Education	Students will transform the information in simple, short messages that can be delivered through different media (i.e. radio, newspapers) and record radio spots or create brochures.	Draft	Individual	Rubric Self-assessment
4	Citizenship Education	Students will contact the school principal and teachers to get a venue and time to present their information to the school community. They could reach out to media companies for support.	Event plan	Whole Group	Peer-assessment.

5	Citizenship Education	Students will celebrate the information event.	Event	Whole Group	Teacher's assessment. Self-assessment.

Resources

Paul, R. and Elder, L. A Miniature Guide For Students and Faculty to Scientific Thinking.
http://www.criticalthinking.org/TGS_files/SAM-ScientificThinking.pdf

Opencourseware on Critical Thinking, Logic and Creativity.
Joe Lau and Jonathan Chan.
http://philosophy.hku.hk/think/

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Richard Paul and Linda Elder.
http://www.criticalthinking.org/files/Concepts_Tools.pdf

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http://www.criticalthinking.org/pages/how-to-study-and-learn-part-one/513

Free Software for Lesson Planning: Planboard.

19 Free Lesson Plan Resources Teachers Need to See

Collaborative Online Lesson Planning Software

Science of Everyday Life. 3M and Discovery Education
http://scienceofeverydaylife.discoveryeducation.com/

Teach 21
West Virginia Department of Education
http://wvde.state.wv.us/teach21/

Center for Service and Learning
West Virginia University
http://service.wvu.edu/

Share my lesson
Drama Activities for High School
http://www.sharemylesson.com/high-school-drama-teaching-resources/

KidWind Project
Resources and lessons on Energy Options
http://www.kidwind.org/

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