



## Module 5: Teaching the competences and values

Guidance material	5.2.3 Teaching Critical thinking Grade 10-12
What is the purpose of this material?	<ul style="list-style-type: none"> <li>This is a selection of teaching strategies and teaching templates to support the teaching of critical thinking</li> </ul>
When to use this material?	<ul style="list-style-type: none"> <li>When introducing the competences to teachers to support them in implementing this competence in their class programme.</li> </ul>
With whom to use this material?	<ul style="list-style-type: none"> <li>Teachers</li> </ul>
Have you considered these materials first?	<ul style="list-style-type: none"> <li>Introduce teachers to the SCF through: <ul style="list-style-type: none"> <li>1.1 What is the SCF?</li> <li>1.2 Structure of the SCF</li> <li>1.3 Definitions matching activity</li> <li>1.4 Prior knowledge brainstorm activity</li> <li>1.5 Close reading – Executive summary</li> <li>1.6 Close reading – Framework Requirements and Exemplifications</li> </ul> </li> <li>4.1 What are competences?</li> <li>Introduce teachers to this competence through: <ul style="list-style-type: none"> <li>4.1.2 What is Critical Thinking?</li> </ul> </li> </ul>
How to use this material?	<ul style="list-style-type: none"> <li>This resource can be used in a range of ways, for example: <ul style="list-style-type: none"> <li>Share with teachers and discuss it in staff meetings or team meetings.</li> <li>Encourage teachers to plan using the ideas in this resource.</li> <li>Encourage teachers to adapt the teaching strategies and templates below to meet their grade level, curriculum area and student's needs.</li> <li>Discuss the ideas and then ask teachers to share their own ideas for teaching this competence.</li> </ul> </li> <li>For more information on each competence read the <i>Framework Requirements &amp; Exemplifications</i> section of the <i>Abu Dhabi Education Council Student Competence Framework (SCF) for Private Schools - Competences for Abu Dhabi's 21st Century Learners (2014)</i>.</li> <li>Note: All websites were checked at the time this guidance material was created. Any website used in an educational context should be checked for accuracy and appropriate content. Links to other websites from this material should not be taken as endorsement of those sites or of content/products offered on those sites</li> </ul>
What resources or equipment are needed?	<ul style="list-style-type: none"> <li>Copies of the <i>Framework Requirements &amp; Exemplifications</i> section of the <i>ADEC SCF for Private Schools (2014)</i>.</li> </ul>

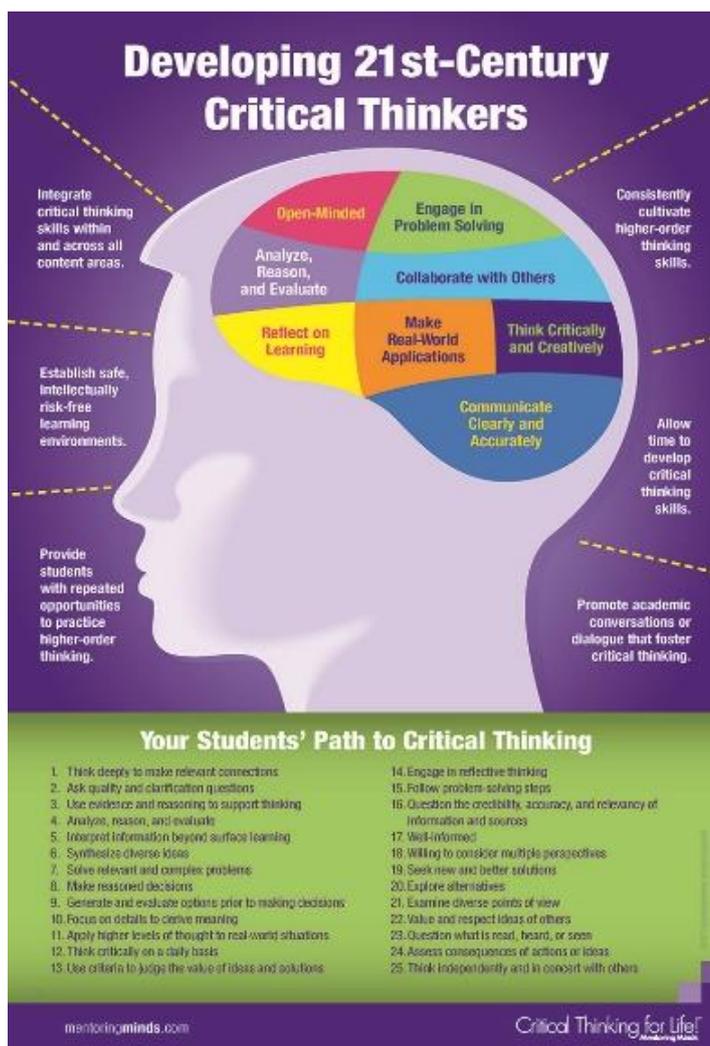
## Teaching Critical thinking Grade 10-12

Here are some strategies and teaching approaches to try in your classroom to promote critical thinking:

- Students present a clear and concise argument for a position, with counter-arguments. They present information which anticipates the concerns of a reader in a written response.
- Ensure that students regularly have opportunities to gather, evaluate the reliability and synthesize information from a variety of sources representing a variety of viewpoints which support both sides of an argument.
- Provide opportunities for students use their acquired knowledge and understanding to construct and evaluate arguments.
- Use this mentoring minds image to help students reflect on when they are thinking critically: What do I do when I am thinking critically?



[www.mentoringminds.com](http://www.mentoringminds.com)



المادة التوجيهية: 5.2.3 أساليب ونماذج التدريس لتفكير النقدي الصف 10-12

الوحدة 5: تدريس الكفاءات والقيم

Module 5: Teaching the competences and values

Guidance material: 5.2.3 Teaching Critical thinking G10-12

- Create opportunities for students to systematically develop and present solutions to unfamiliar problems by making use of all available information.
- Encourage students to reflect on the importance, relevance and justification of their own beliefs, values and viewpoints from both local and global perspectives.
- Consider the levels of Bloom's Taxonomy when designing activities or constructing questions. The website [below](#) has more information on using Bloom's in the classroom.



## [Blooms Taxonomy](#)

### Applying Bloom's Taxonomy in Your Classroom

<p><b>1. REMEMBER</b></p> <p>Students are expected to retrieve information from memory, but aren't expected to change it in any way.</p> <p><b>In-Class Instruction</b> Students memorize a definition of an associative property.</p> <p><b>Assessment</b> Students are given a multiple choice question and asked to recognize the answer, or are asked to recall the answer and fill in a blank.</p>	<p><b>2. UNDERSTAND</b></p> <p>Students are building new connections in their minds.</p> <p><b>In-Class Instruction</b> Students identify the key characteristics needed for an organism to survive in a particular ecosystem.</p> <p><b>Assessment</b> When given the description of a fictitious animal, students explain whether the animal will survive in a given ecosystem.</p>
<p><b>3. APPLY</b></p> <p>Certain procedures or steps are expected to be followed in order to answer new problems.</p> <p><b>In-Class Instruction</b> Students learn about Newton's three laws.</p> <p><b>Assessment</b> Students are asked to examine the information about a car crash and determine which if any of Newton's laws apply to the situation.</p>	<p><b>4. ANALYZE</b></p> <p>Students utilize lower-level thinking skills to identify key elements and examine each part.</p> <p><b>In-Class Instruction</b> Students read a student lab report and identify the evidence to support the finding.</p> <p><b>Assessment</b> Read the results of the scientific study and find supporting statements for each conclusion or finding.</p>
<p><b>5. EVALUATE</b></p> <p>Informational sources are examined to assess their quality and decisions are made based on identified criteria.</p> <p><b>In-Class Instruction</b> Students read about the physical effects of exercise on humans.</p> <p><b>Assessment</b> Read an article about a famous athlete. Identify one piece of information in the article that fails to support the author's case that hard work was the main reason for the athlete's exceptional athletic skills.</p>	<p><b>6. CREATE <i>new!</i></b></p> <p>Learners organize information in a new or different way.</p> <p><b>In-Class Instruction</b> Students research the role of economics in business.</p> <p><b>Assessment</b> Students brainstorm reasons for a problem and generate suggested solutions, and design and implement a campaign designed to solve the identified problem.</p>

Adapted from  
Assessing Critical Thinking in Middle and High Schools:  
Meeting the Common Core and  
Assessing Critical Thinking in Elementary Schools:  
Meeting the Common Core  
by Rebecca Stobaugh

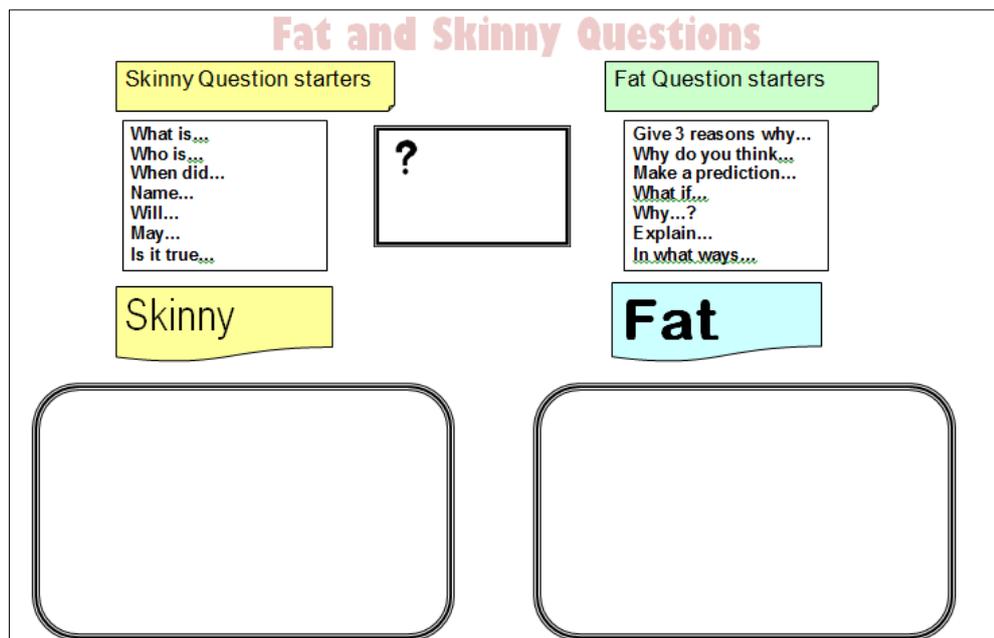


www.eyeeeducation.com

(Bloom, B. S. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1; Cognitive Domain*. New York: David McKay Co. Inc.: pp. 7-8.)

(Krathwohl, D. R. (2002). "A Revision of Bloom's Taxonomy: An Overview." *Theory into Practice*, 41 (4): pp. 212-18.)

- Students analyse, evaluate, and apply information to support their position while debating current topics, and are encouraged to question the accuracy of information obtained.
- Effective critical thinkers at this stage can use their acquired knowledge and understanding to solve unfamiliar problems. Create opportunities for students to develop both conventional and innovative solutions to such problems.
- Encourage students to construct ‘fat questions and to challenge each other’s ‘skinny’ questions. ‘Skinny’ questions are low level questions that require a one word or yes/no answer. ‘Fat’ questions contain more depth of thought and broaden students’ thinking skills.



- Provide opportunities for students to participate in debates on current topics, prepared to present both sides of the argument and develop relevant counter-arguments to their position. This will ensure that they can identify logical inconsistencies and mistakes in others’ reasoning.

- Support students to think critically by answering and asking complex questions. Sort questions into different levels depending on how much they make us think.

<b>Robot questions:</b>	<ul style="list-style-type: none"> <li>Who...?</li> <li>When...?</li> <li>What...?</li> <li>Where...?</li> </ul>
<b>Detective questions:</b>	<ul style="list-style-type: none"> <li>Why...?</li> <li>What caused...?</li> <li>What does ..... mean?</li> <li>Why do you think...?</li> </ul>
<b>Judge questions:</b>	<ul style="list-style-type: none"> <li>Do you think...?</li> <li>Would you agree that...?</li> <li>Would it be better if...?</li> <li>How do you know?</li> </ul>
<b>Inventor questions:</b>	<ul style="list-style-type: none"> <li>How would you...?</li> <li>Were you ever...?</li> <li>What would you do if...?</li> <li>If you were...?</li> </ul>

- A wicked problem is a social, economic or cultural problem that is difficult or impossible to solve because the problem is...

- Not well defined
- Very big and complex
- Always changing
- Expensive
- Too interconnected with other problems.



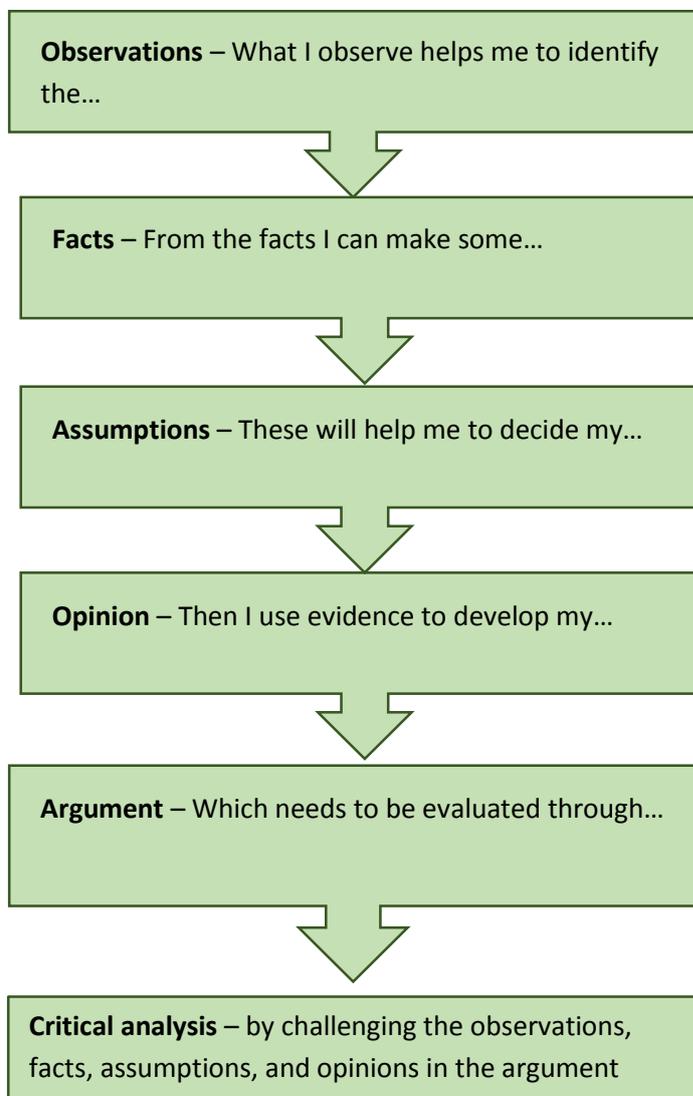
The word '*wicked*' is used because the problem is so complex, not because it is evil. Wicked problems include world poverty, poor nutrition, climate change, obesity environmental waste.

Students could...

- Identify local, national and global problems that they believe are wicked. Justify why it is a wicked problem, analyse existing solutions and describe why they have not worked.
- Research a wicked problem and justify the essential elements that need to be considered when solving that wicked problem.
- Analyse the links between two (or more) wicked problems and describe how one wicked problem affects another wicked problem.



- Use the following decision making steps with students when they construct a robust argument.



- Writing a report is a good way for students to build and practice critical thinking. This critical thinking skills template can be used when students are writing a report. This could be an essay, a technical report or a presentation.

<p><b>1. Explain/describe the problem/issue/situation</b></p> <ul style="list-style-type: none"> <li>• What are some elements/aspects/causes?</li> <li>• Why is it a problem/issue/situation?</li> <li>• Who/what does it impact?</li> <li>• What consequences are there if there is no resolution?</li> </ul>	<p><b>2. Identify the key assumptions in the problem/issue/situation</b></p> <ul style="list-style-type: none"> <li>• What are you taking for granted?</li> <li>• Are there hidden assumptions?</li> <li>• How do you separate the factual from the assumed?</li> <li>• How are my assumptions shaping my point of view?</li> </ul>
<p><b>3. List positions/perspectives related to the problem/issue/situation</b></p> <ul style="list-style-type: none"> <li>• What does bias mean?</li> <li>• How am I biased in this situation?</li> <li>• Is this based on my experience or am I guessing?</li> <li>• Is bias built into the project/task?</li> <li>• Are there other ways to look at this?</li> <li>• Is there an expert you can consult?</li> <li>• Are there any blogs/websites or other resources you can visit to focus your thinking?</li> </ul>	<p><b>4. Explain how your information was verified and/or researched. List your sources.</b></p> <ul style="list-style-type: none"> <li>• What does bias mean?</li> <li>• Name your sources of information.</li> <li>• Are they reliable?</li> <li>• Are they and the information specific to your industry?</li> <li>• How can you verify them?</li> <li>• Is the information: Factual? Current? Relevant? Complete?</li> <li>• Are multiple sources necessary?</li> <li>• Have any value judgments been identified?</li> </ul>
<p><b>5. How did you solve your problem/situation?</b></p> <ul style="list-style-type: none"> <li>• Did you solve it?</li> <li>• If you did not solve it, why not?</li> <li>• Was there another option?</li> <li>• Did you use a problem solving process?</li> <li>• What process did you use?</li> <li>• What were your steps?</li> <li>• Did your investigation uncover a different issue or problem than what was initially anticipated?</li> </ul>	<p><b>6. What are the implications, conclusions and consequences of your solution/resolution or nonresolution?</b></p> <ul style="list-style-type: none"> <li>• Have you come to a successful conclusion to the task?</li> <li>• How has the resolution improved your situation?</li> <li>• Have you utilized your data and evidence in your solution?</li> <li>• How can you monitor the outcome?</li> <li>• Is the outcome realistic or practical?</li> </ul>

## SCF Pilot School Case Study

### “Old Yeller”

<b>SCF Pilot School:</b>	Al Bashair Private School	<b>SCF Lead Teacher</b>	Raghad Al Shaar
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Ms. Raghad’s Grade 6 English class were learning about the importance of the characters to the plot of the story. They were learning how to identify the characters in a story and analyse the importance of each character. Ms. Raghad is also using this lesson as an opportunity to build the Critical Thinking competence.

The students have been reading “Old Yeller”, a story about a dog called Old Yeller that fought with a mother bear to rescue a child. When exploring the importance of the characters, the students decided which characters were major characters and which were minor characters. Each student then selected one major character and they had to assume that the character was deleted or omitted from the story. They considered things like:

- How would this omission affect the plot?
- What might happen or not happen?
- How would this omission change the:
  - Events development?
  - Climax?
  - Turning point?
  - Resolution?

Each student started by listing all the consequences if this character was deleted. Some students had to add new events to the story, some students had to think of other obstacles to the stories resolution, while some students needed to construct a different story ending. Ms Raghad gave students a simple graphic organizer to help them organize their ideas.

(Who) Travis, the elder brother,

would / would not (circle one)

perceive the importance of responsibility while the father was travelling to Texas

if his little brother had not been attacked by the mother bear in the story.

Ms Raghad asked individual students questions to encourage them to defend their ideas. This led to students being reflective when thinking of solutions and not to accept the first idea they thought of but to look at things from different perspectives. While analysing consequences the students started to construct their argument for that characters importance. They were expected to use their notes and evidence from the story.

Then Ms. Raghad asked the students who have chosen the same character to form a group to share their ideas. This step is very important for the students because it meant they pose more questions, develop arguments, and share ideas. Working as a group

allowed them to create essential debates to defend their own point of view based upon their assumptions. When the students returned to their original groups they had to argue the importance of their character and the consequences of omitting that character.

At the end of the lesson students completed a self-reflection sheet based on a critical thinking rubric. Students were expected to highlight their thinking and how they identified and constructed their arguments.

Ms Raghad's students **solved problems in an innovative way** and they made **use of the knowledge and understanding they had acquired** during their ongoing study of the book "Old Yeller". They **identified their argument** through recognizing their main character and then they **constructed their argument** for that characters importance by analysing the consequences of that characters omission from the story. The graphic organiser provided and the lesson process Ms. Raghad used ensured the students **constructed their argument in a logical manner**.