

Course Topic: Teaching English for Academic Purposes**Course Instructor:**

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Course Synopsis:

English for Academic Purposes (EAP) students have quite a challenge ahead of them. Not only do they need to learn the English language to quite a high level of proficiency, including complex vocabulary and complex grammar, they also need to learn different ways of thinking that will enable them to be successful in a higher education setting in an English-speaking context. In this session we will discuss the concept of critical thinking and its relationship to EAP student success, we will explore some of the cultural assumptions behind the concept, and finally, we will take a look at some possible approaches to teaching our students critical thinking.

Course Agenda:

1. What is Critical Thinking?
2. Cultural Differences that Affect Student Critical Thinking
3. Bloom's Taxonomy
4. Structuring Arguments
5. Types of Reasoning
6. Critical Thinking Subskills
7. The Language of Critical Thinking
8. Teaching Critical Thinking Skills
9. Additional Resources

1. What is Critical Thinking?

“Critical thinking is disciplined thinking that is clear, rational, open-minded, and informed by evidence.” www.dictionary.com.

Critical thinking is “active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends.” John Dewey, 1909

Critical thinking is “the systematic evaluation or formulation of beliefs, or statements by rational standards.” Vaughn, Lewis and MacDonald, Chris. 2010.

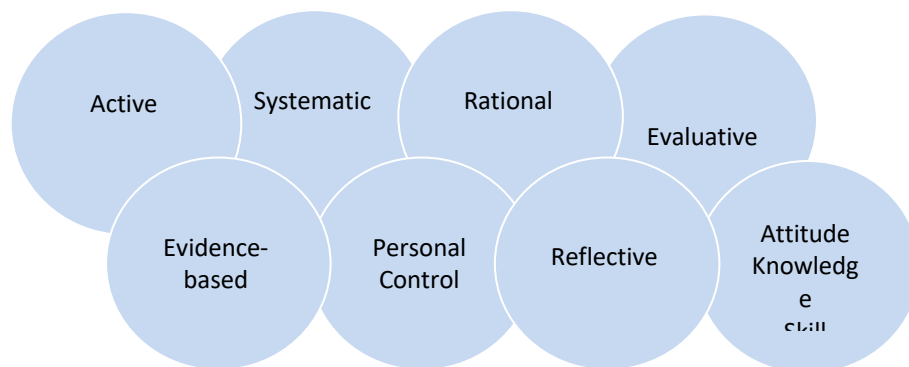
Critical thinking is “(1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one’s experience; (2) knowledge of the methods of logical enquiry and reasoning; (3) some skill in applying those methods.” Edward Glaser, 1941

“Critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do.” Norris and Ennis, 1989

“Critical thinking is that mode of thinking—about any subject, content or problem—in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them.” Paul, Fisher and Nosich, 1993

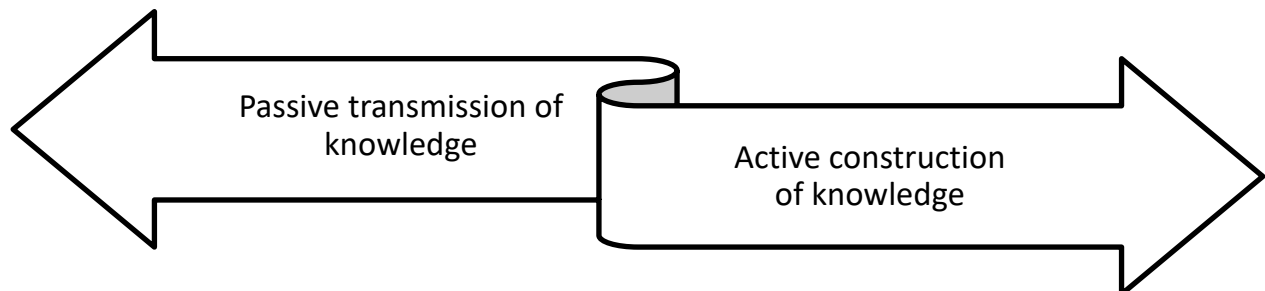
Critical thinking is:

- Active
- Systematic
- Rational
- Evaluative
- Evidence-based
- A system over which we have Personal Control
- Reflective
- Comprised of attitude, knowledge and skill



2. Cultural Differences that Affect Student Critical Thinking

Cultures vary in terms of beliefs about how we learn as human beings.¹ At one end of the continuum are cultures that believe knowledge should be passively transmitted from the experts (the teachers) to the non-experts (the students). At the other end of the continuum are cultures that believe each individual student should actively and critically construct knowledge based upon individual experience, observation, experimentation, problem-solving, and evaluation. This belief system is called constructivism.² This is the belief system in most English-speaking cultures and education systems but not necessarily the belief system from which our EAP students come.



Passive transmission of knowledge means instruction that is fact-based and non-critical. An individual's existing knowledge is expanded through memorization, description and narration.

Active construction of knowledge means instruction that is critical, almost to the point of being adversarial. An individual's existing knowledge is expanded through problem-solving, discovery, evaluation and critical thinking.

Our job as EAP teachers is to explain constructivism to our students and provide them with the skills required to be successful in an education system that is based upon constructivism. We can't just tell students to problem-solve, discover, evaluate and think critically because they may not know what these mean. Learning the language is therefore not enough; students need to also learn the concepts and processes behind constructivism in order to be successful in an education system based upon constructivism. The key to this set of skills is critical thinking.

3. Bloom's Taxonomy³

One way to make the skills of critical thinking clear for our students is to use Bloom's Taxonomy. This taxonomy divides learning, or different levels of cognitive (intellectual) skills, into six levels with each level involving more complex critical thinking than the next. Students from cultures with education systems based upon passive transmission of knowledge will only be comfortable at the first two levels of the taxonomy. Thereafter, they will have to be explicitly taught the cognitive skills. The chart also indicates the types of tasks you can give students so that they practice each cognitive skill.

¹ Ideas drawn from Nisbett, Richard E. 2003. *The Geography of Thought*. Free Press.

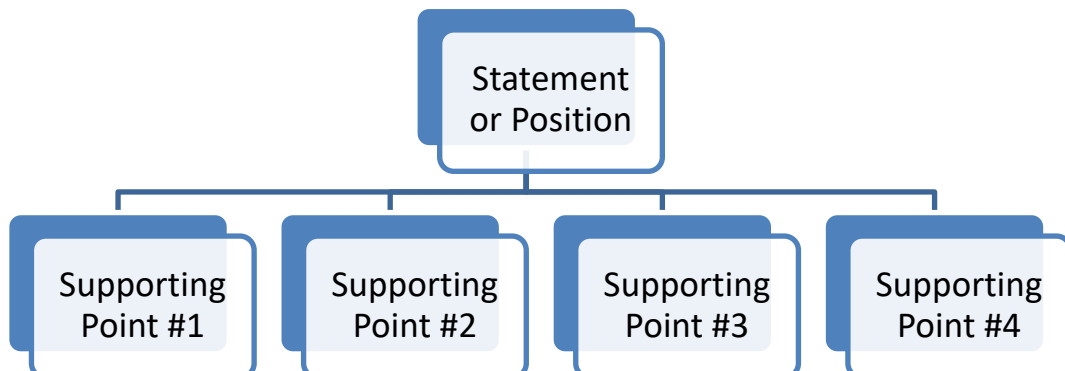
² For more information on constructivism as it relates to education see www.vonglasersfeld.com/114.

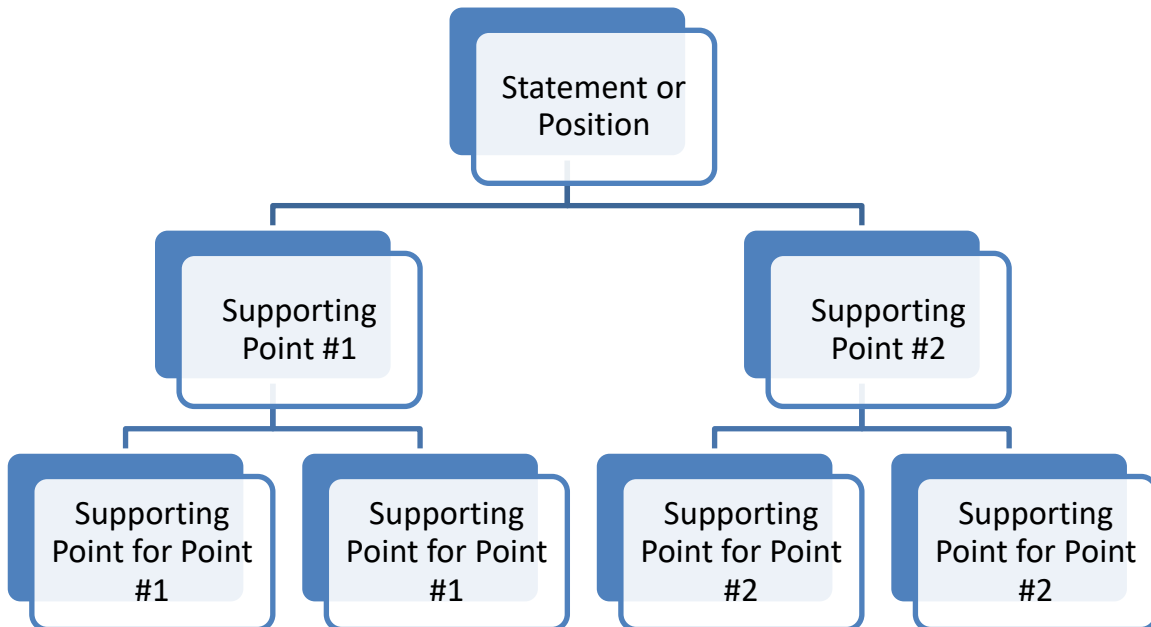
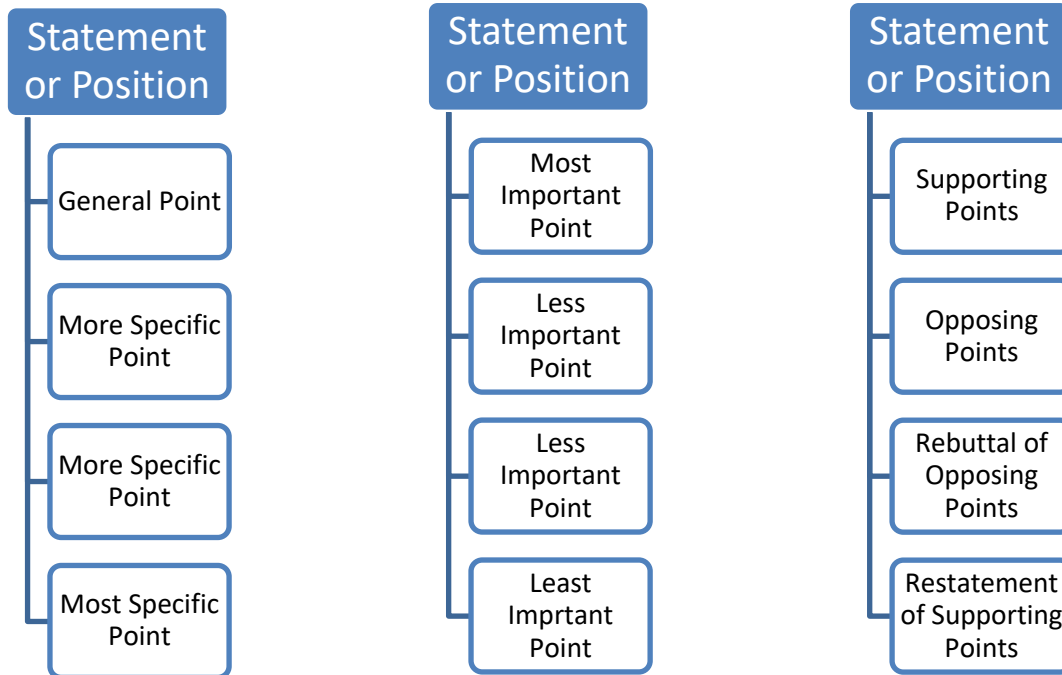
³ Adapted from www.nwlink.com/~Donclark/hrd/bloom.html

Level	Description	Task Types
Knowledge	Recall data or information	define, label, recall, list, identify, describe, state
Comprehension	Understand the meaning and interpretation of instructions and problems. State a problem in one's own words.	interpret, paraphrase, modify, explain
Application	Use a concept in a new situation. Apply what was learned in the classroom in new situations.	compute, apply, demonstrate, generate
Analysis	Separate concepts into component parts so that their organizational structure can be understood.	analyze, categorize, relate, differentiate
Synthesis	Build a structure or pattern from different pieces or elements. Put parts together to form a whole with emphasis on creating a new meaning or structure.	create, combine, reconstruct, summarize, revise, modify, design
Evaluation	Make judgments about the value of ideas or situations.	compare, evaluate, critique, support, conclude, justify, discriminate, contrast, defend

4. Structuring Arguments

Another way to work with our students on their critical thinking skills is to teach them how to structure arguments. Here are diagrams of different argument structures to teach your students, from simplest to most difficult.





For more argument structures, see the suggested additional resources at the end of the handout. Also note that there is software available to help students map out the above argument structures as well as additional structures. Check out:

- Rationale by Austhink at <http://rationale.austhink.com>
- Argunet at www.argunet.org

5. Types of Reasoning

The two main types of reasoning that students need to know are deductive and inductive reasoning.

Deductive reasoning is known as top-down reasoning. The argument moves from general statements that are true to conclude that a specific statement is therefore also true. As long as the general statements are true, and logic is followed, the conclusion from deductive reasoning is true.

Here is a very simple example of deductive reasoning:

General statement #1: All human beings have a heart.

General statement #2: You are a human being.

Conclusion: You have a heart.

Inductive reasoning is known as bottom-up reasoning. The argument moves from specific examples, to a conclusion that is probably, but not necessarily true. Inductive arguments are either strong or weak, depending upon how probable the conclusion is thought to be.

Specific example #1: John is a basketball player and he is very tall.

Specific example #2: Mark is a basketball player and he is also very tall.

Conclusion: Basketball players are very tall.

There are many different patterns of both deductive and inductive reasoning that are beyond the scope of this session. Check the additional resources given below for these additional types of reasoning.

It is not enough to just teach our students the types of effective reasoning. We also have to teach them **flawed reasoning**. This includes the following:

- **A contradiction** is flawed reasoning that allows two completely opposite points to be true, when in fact it is only logically possible for one to be true.
- **A circular argument** is flawed reasoning whose conclusion is also used as a statement to support the conclusion. In other words, a conclusion is used to support itself.
- **A false analogy** is flawed reasoning that uses an analogy that is not acceptable or logical. An analogy is when two objects, considered to be similar, have the same property. A false analogy is when two objects, considered to be similar, are actually different with respect to the particular property being used in the reasoning.
- **An illogical conclusion** is flawed reasoning that is simply not logical. A simple example is saying that two plus two equals five. We know that according to mathematics, this is not logical.

6. Critical Thinking Subskills

A final way to work with our students on critical thinking is to break the overall skill of critical thinking down into subskills. Subskills can first be divided into skills for the receptive language skills (listening and reading) and critical thinking subskills for the productive language skills (speaking and writing). Here are some of the subskills that we need to teach our students.

Receptive Subskills (Listening or Reading)

When students are listening or reading they need to be able to use the following critical thinking subskills:

1. Identify the author's position, evaluation or judgment.
2. Identify the supporting details or reasons for that position.
3. Identify the structure of the argument the author is making.
4. Identify the type of reasoning the author is using.
5. Identify the types of supporting details: direct support, opposing arguments, rebuttal of opposing argument.
6. Distinguish fact and opinion.
7. Distinguish qualitative and quantitative supporting details.
8. Identify implied versus explicitly stated points.
9. Identify and evaluate hidden assumptions, premises, biases and appeals to emotion.
10. Evaluate the author's argument as true or false, or strong or weak.
11. Identify the flaws in the author's argument including contradictions, circular arguments, false analogies and illogical conclusions.

Productive Subskills (Speaking or Writing)

When students are speaking or writing they need to be able to use the following critical thinking subskills:

1. Clearly state a position, evaluation or judgment.
2. Support a position, evaluation or judgment with details, examples or research.
3. Have a clear argument structure.

4. Have an evident type of reasoning.
5. Have clear types of supporting details: direct support, opposing arguments, rebuttal of opposing argument.
6. Have both qualitative and quantitative details if applicable.
7. Avoid assumptions, premises, biases and appeals to emotion.
8. Avoid flawed reasoning such as contradictions, circular arguments, false analogies and illogical conclusions.
9. Connect ideas so that the argument flows smoothly.

7. The Language of Critical Thinking

We also have to teach students the language that goes with critical thinking. Below are some examples, but these lists are by no means complete.

Statement or Position Indicators	Reason or Supporting Point Indicators	Conclusion Indicators
My position is... My point is... I believe that... It is my belief that... I contend that... I put forward that... It is thought that...	because... since... for... First..., Second..., Third... Then..., Next..., Finally... My first point is... My second point is... My third point is...	Therefore... So... Hence... Thus... Consequently... ...which proves that... ...which demonstrates that... We can conclude that... The conclusion is... ...from which we can conclude... ...it follows that... ...demonstrates that...

8. Teaching Critical Thinking Skills

Keep the following in mind when teaching critical thinking skills:

- Critical thinking skills should be taught at all language proficiency levels. At lower proficiency levels, the vocabulary and the concepts should be simpler, and the critical thinking less complicated, however, students can still start to work on the fundamental critical thinking skills. As student language proficiency increases, the complexity of the vocabulary, concepts and critical thinking should increase.

- Critical thinking skills should be taught incrementally; gradually add more and more of the subskills to the students' overall set of critical thinking skills.
- Provide students with a lot of opportunity to practice. The more students can practice their critical thinking skills, the more effective they will become at critical thinking.
- Use diagrams and concrete examples whenever possible. Don't just explain a critical thinking concept, illustrate it.

Receptive Critical Thinking Activities (Listening and Reading)

1. Give students a series of statements. Have them distinguish between statements which are positions and those which are supporting details.
2. Give students a series of statements. They have to distinguish between statements that are facts and those that represent the position or opinion of the author.
3. Provide students with a series of statements about an argument. Students have to identify which are supports for those arguments, which are opposing arguments and which are rebuttals to weaken opposing claims.
4. Students read a short text and identify the author's voice, viewpoint and or biases.
5. Students read a short text and make a diagram that illustrates the structure of the argument.
6. Students read a series of arguments and identify those which are deductive and those which are inductive.
7. Students read a longer academic article. They identify the qualitative supporting points and the quantitative supporting points in the article.
8. Students read a series of arguments and identify any flawed reasoning in the arguments.
9. Provide students with an academic article (short or long, depending upon the language proficiency level of the students). Students apply several of the receptive critical thinking subskills to the article to determine if the author has constructed a good argument or not.

Productive Critical Thinking Activities (Speaking and Writing)

1. Put simple position statements on the board. Students work individually to write two supporting details for each position statement.
2. Students write three sentences about a topic that you provide to demonstrate deductive reasoning. They write another three sentences to demonstrate inductive reasoning.
3. Students write six statements, three of which are facts and three of which are opinions.

4. Give students a reading text containing flawed reasoning and have them work to correct it. Students rewrite the text with the corrected reasoning.
5. Give students an argument structure and a topic. Have them create an argument diagram for the topic with their position statement and supporting details. Students then pull everything together into a paragraph that argues their position.
6. Students create an argument structure diagram on a topic that you provide. Students then construct a spoken debate based on their argument structure diagram.
7. Have students complete lengthier works, in speaking or writing, that pull together multiple frameworks or subskills. For example, lower level students can write a single paragraph that makes a particular argument and uses a particular structure. Intermediate students can write a three paragraph essay. Higher level students can write a multi-page essay. Students can also do short presentations that demonstrate their position and their argumentation on different topics.

9. Additional Resources

In this video, we have only had the opportunity to complete an overview of the critical thinking skills that English for Academic Purposes students need to learn. To dig into critical thinking in more detail, we suggest the following resources:

Fisher, Alec. 2011. Critical Thinking: An Introduction, Second Edition. Cambridge University Press.

Foundation for Critical Thinking. www.criticalthinking.org.

Ruggiero, Vincent Ryan. 2012. Becoming a Critical Thinker. Seventh Edition. Wadsworth Cengage Learning.

Vaughn, Lewis and MacDonald, Chris. 2010. The Power of Critical Thinking, Second Canadian Edition. Oxford University Press.

Thanks for participating!

www.aceducation.ca