

# NEU Students' Critical Thinking Ability Cultivation Based on Problematic Instruction With Academic Writing Emphasis

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This paper deals with the correlation of academic English writing and critical thinking. To overcome information overloading, one needs to evaluate through questions, assess credibility, compare sources, and track the origin of information. Take NEU (Northeastern University) students as a sample to investigate that learning academic writing is helpful to be critical thinkers, which largely enhances their criticality. After generally examining the critical thinking, we conclude primarily that undergraduate academic English writing course is a platform to nurture critical thinking, which is the mainstream transition in the Chinese college English teaching. Some pedagogical tools are also recommended to nurture critical thinking ability.

*Keywords:* criticality, cultivation, academic writing, critical thinking

## Introduction

Nowadays, college English class is considered irrelevant by many science-majored students, because college English books only apply some grammar exercises into imaginary situations. However, as their education and research requiring control of English and critical thinking, they are reluctant to learn, so the outcome is apparently unsatisfied. Meanwhile, 21st century skills require digital literacy, information literacy, and critical literacy and language are used to express opinions and make judgement. College English not only teaches language but also spreads foreign cultures. The more students learn Western cultures, the more they get to know about their way of thinking. Critical thinking is the core of Western education. Academic writing is an innovative transition in the college English teaching, so more emphasis is on the critical thinking, especially in EAP (English for Academic Purposes) and ESP (English for Specific Purposes) classes. How to foster critical thinking in the EAP class is a common concerned question in the academic English teaching.

## Review of Critical Thinking and Academic Writing

Through searching web of science to examine the link between critical thinking and academic writing in recent three years, 43 journals are found. Through manual search, 15 papers are highly correlated to the topic, amongst which five papers do exactly research about critical thinking and EAP. Some essays mentioned Benjamin Bloom's Taxonomy (1956) and evaluated that it categorizes intellectual skills and behaviors important to learning (Heather, 2013). Bloom (1984) identified six cognitive levels: knowledge, comprehension, application, analysis, synthesis, and evaluation, with sophistication growing from basic knowledge-recall skills

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to the highest level, evaluation. It firstly emphasized critical thinking and brought two critical cognition skills: higher-order thinking skill (HOTS) and lower-order thinking skill (LOTS). In the 1990s, one of Bloom's students, Lorin Anderson, revised the original taxonomy. In the amended version of Bloom's Taxonomy, the names of the major cognitive process categories were changed to indicate action because thinking implies active engagements. Instead of listing knowledge as a part of the taxonomy, the category is divided into different types of knowledge: factual, conceptual, procedural, and metacognitive. This newer taxonomy also moves the evaluation stage down a level and the highest element becomes "creating".

Bloom (1956) also identified the quality of strong thinkers. "Remember" means recalling details and locating information; "understand" means explaining ideas/concepts; organizing facts and ideas. "Apply" means completing a task with information that has been understood. There are also three low cognitive skills (Interpret). "Analyzing" could be explained to identify parts and how they relate understand structure. "Evaluating" is to judge quality of arguments information and organization. "Create" means generating new products, thoughts, opinions, or solutions (see Figure 1).

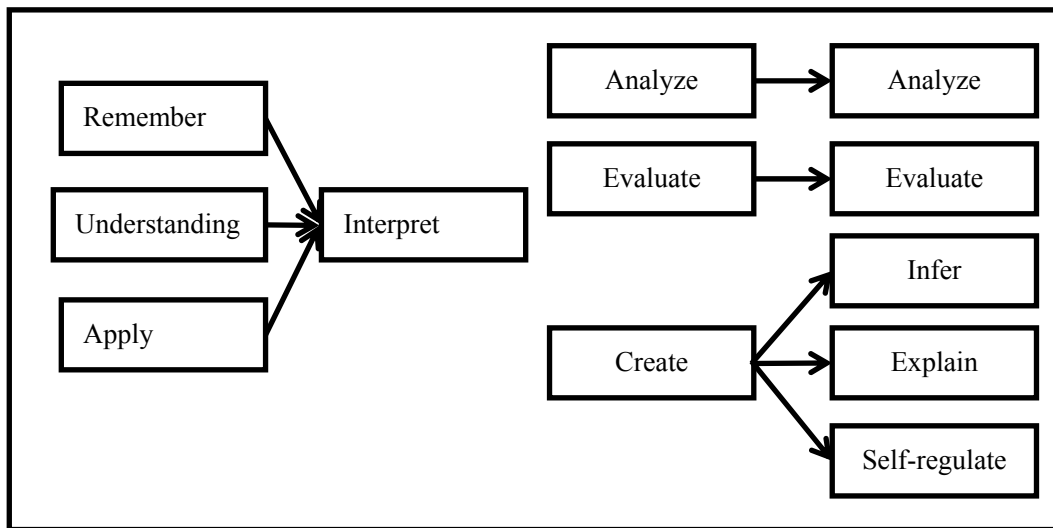


Figure 1. Six cognitive skills of strong critical thinkers.

Davies and Barnett (2015) figured out three broad perspectives on critical thinking within the literature. They are skills perspective, the criticality perspective, and the critical pedagogy perspective. Their first perspective emphasized the skills of reasoned argument and analysis. It is the core of Western class teaching which could date back to the precepts of the Greek philosophers (Wilson, 2016). More recently it has been articulated as a broad set of lower and higher order skills such as interpreting, identifying logical fallacies, analyzing cause and effect, synthesizing claims, making inferences and predictions, evaluating and problem solving (Bloom, 1984). In terms of criticality perspective, the second perspective, they suggested that a curriculum for critical thinking would also need to develop in students a "critical character" or "critical disposition", including an openness to new ideas, the will to be well-informed and to use credible sources and observations, being prepared to listen and consider other points of view, the ability to take a position and defend it, but also could change positions if evidence and reasons indicate that. Self-regulation and self-reflection are essential to criticality as it is predicated on students becoming independent and inquisitive seeker of understanding. The third aspect of critical thinking defined by Davis and Barnette (2015) is a critical

pedagogy movement. They argued that if students could act responsibly and ethically, they should be aware that powerful social force at work in the world which serves to silence and marginalize others, restricting human freedom. So they think critical in at least two ways, as an intellectual, deconstructive, textual, and cognitive analytical task and as a form of embodied political anger, alienation, and alterity (Vanichev, Kah, & Ponidelko, 2015).

### **Method**

According to David and Teresa (2014), the action research means the action and the researcher both involved are the best research. In the nurturing process, both teachers and students are participants. So in this paper, action research largely supports the whole research process.

### **Date Collection**

This term the 146 Northeastern University's (NEU) sophomore students had a chance to participate in the US department of state sponsored Academic English writing program. The sponsor gave a pack of materials concerning academic writing. They are required to finish a thesis with a topic about environment protection and pollution. The Top 20 will get \$200 as a reward. And through half-month practice, the NEU students became familiar with the academic writing format and critical thinking. They have been trained to be critical in their thesis writing, meanwhile, they had opportunities to talk to their foreign teachers and Chinese teachers about their procedures. They also had several tutorials about the academic writing. At first, they are required to finish some exercises including watching some videos (remember, understand). Then they need to identify some references resources including books, scholarly/academic articles, newspaper and magazines, and website resources. Teachers gave feedback of each time face-to-face review through QQ group chatting and students delivered their attainment experience to their teachers while they began to brainstorm their thesis, do literature review, design layout, collect data, analyze their topic problem, and do peer review. Lastly, their thesis will be examined from logic and content, style and layout, grammar and language to citation and reference. Three round competitions weed out the unexcellent thesis. Fortunately, through teachers' several times review, two students in my class finally rushed into the Top 20 and they will get a reward of \$200.

### **Results**

In the first year of their college English class, they are taught the all-purpose college English. The students recall, memorize, list, and repeat information. In the second tier, students classify, describe, discuss, identify, and explain information. Next, students demonstrate, interpret, write about what they have learned, and solve problems. In the subsequent step, students compare, contrast, distinguish, and examine what they have learned with other information and they have the opportunity to question and test this knowledge. Then students argue, defend, support, and evaluate their opinion on this information. Finally, in the original model of Bloom's Taxonomy, students create a new project, product, or point of view.

### **Teacher's Role**

Teachers as mentors need to learn more about critical thinking; creating an encouraging environment; and planning courses and lessons to include critical thinking. They should be rather patient, e.g., increasing teacher wait time or giving students a chance to think deeply. Avoid unfortunate habits: the interpreter, the self-answer, and the fast talker. Encourage questions, debate, different views and curiosity. Use many encouraging discourses in the class like: "Great question!", "I bet a lot people are curious about that", "Good point", "Tell

me more about...”, “Interesting”, “I had not thought of it that way”, “What do others think?”, “Would anyone like to respond to xx’s comment?”, “I am not sure”, “How can we find out...?”, “Where can we look for evidence?”, “Do I design objectives and activities to encourage critical thought?”. Build critical thinking into objectives. Use a graphic organizer to identify main ideas and supporting details. Identify how the author uses adjectives and adverbs to provide evidence to support their response to identify two biases and assumption where they related to. Use question starters. Incorporate topics students care about. Create self-regulate. Build critical skills. Ask open-ended questions. Ask for examples, evidence, and predictions. Ask for examples, predictions, and reflection.

Agreeing	Disagreeing	Contrasting opinions
I (absolutely) agree. I agree completely. On the whole, I agree. I see your point. You have a point there. I couldn't agree more. I see what you mean.	I'm sorry, but I can't agree with that. I'm afraid I disagree. That's not how I see it (the situation). I don't entirely agree. The facts don't support that position.	Yes, but on the other hand... That may be; however... I see your point, but... Your raise an interesting point; however...

Figure 2. Functional language chart.

**Pedagogy**

In the academic writing class, some pedagogical methods are employed to cultivate students' critical ability. We highly recommend KWL, Fact VS Opinion, Great Mini-Debate, and English teaching forum. KWL (know, want to know, learned) is a very useful drill to stimulate students' curiosity and let them recall their knowledge based on certain issues and explore their knowledge blank. Teachers may find a typical argumentation and ask students to distinguish Fact VS Opinion; then encourage students to comment and argue by peers. For the Great Mini-Debate, we use the Academic British parliamentary debate format, which is the Parliamentary format copied by many countries (FAN, 2013). On the one hand, Mini-debate seizes an opportunity to get students access to British culture; on the other hand, had them to further practice language fluency and logic, due to that proficiency is a potential limiting factor in students' use of critical thinking skills (Emmanuel & Chris, 2016). Teachers need to prepare some materials like blackboard and chalk, or whiteboard and markers; paper and pencils or pens; a timing device. And maybe they prepare some themes and let student groups choose a debate theme. The debate group (prime minister, deputy, member, whip) create a debate topic set related to the theme. They select topics that people will have strong but different opinions about. It requires a debater must have active background knowledge about debate and examines brainstorm qualities of a strong debater. English teaching forum mainly focuses on the functional sentences practices which are to present an oral argument using evidence. To use functional language (see Figure 2), some essential skills are mentioned: agreeing, disagreeing, and contrasting opinions. Teachers could elicit language related to these functions and have students to capture ideas in a functional language chart.

**Conclusion**

Due to the 21st ability, criticality has become the focal point of pedagogy. Academic writing as an innovative transition and emphasis of EAP which could examine students' academic ability echoes with critical abilities. Academic writing is doomed to be a trend in Chinese College English pedagogical revolution, however, academic writing could not solve all the problem of critical thinking. To put it in another way, critical

thinking is not just a thesis writing, it is more of criticality, not only just skills, but also may leads to alienation even rebellion. We should encourage students to be critical in order to be innovative not stubborn, however, the role of teacher should be aware that to create an equal atmosphere is to help to make students realize they sit there not only for “knowledge” but also for “wisdom”.

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