Research on the Validity of the Critical Thinking Skills Assessment in Guangzhou College of Commerce

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Keywords: Critical thinking, Validity of assessment, Curriculum, Course syllabus.

Abstract. Critical thinking is an essential proficiency for students to gain, and effective assessment facilitates students’ development as critical thinkers. This paper is to examine the validity of existing assessment practice of critical thinking-embedded courses in Guangzhou College of Commerce (GCC) and shed lights on how it may be adjusted in alignment with the expected level in GCC’s US partner institution—Bellevue University. The research is conducted through both qualitative and quantitative approaches. Data is collected from interviews and questionnaires completed by respondents from both universities. Results suggest the fundamental difference in curriculum of these two universities leads to a divergent practice of assessment. The current assessment of critical thinking skills in GCC is varied in its form but constrains students to meet the expected level in BU due to its limited coverage of key knowledge of critical thinking skills. Norming of the course syllabuses and the adjustment of curriculum from GCC side are considered necessary.

Introduction

The research is an exploration of the critical-thinking (CT) issues that are faced by Chinese International students and the key factors that attribute to their deficiency to meet the expected level of CT in an Anglophone university. Accordingly, it suggests ways to facilitate students' academic experience, namely to adjust the assessment practices so that students meet the criteria of CT-related courses in a target university.

The aim of the study is to adopt a qualitative research to shed light on the under-addressed issue that Chinese students’ unsatisfactory performance in CT-related courses may indicate a mismatch of the assessment approaches of both universities.

Specifically, a case study was carried out in Guangzhou College of Commerce (GCC), one of the typical Chinese-Foreign Cooperation Running Schools (CFCRS) in Guangzhou, China. The study looks into the CT-related challenges Chinese students are facing in the contracted foreign universities—Bellevue University (BU). It starts by identifying the specific CT-related problems in students' assignments and tests, and then relating them to the current major assessment form—examination and its question type, which is considered less reflective than self-assessment and peer review and may inhibit the development of reasoning and analytical skills. To avoid biases and confusion, both the perspectives of teachers and students in BU have been collected for analysis, as they demonstrate an in-depth and fact-based understanding of the current issues in American academic context. Then, it follows with a comparative study of the assessment forms in both universities to identify the gap, suggest tentative adjustment and hopefully bring profound changes to students' capability to perform well in CT-related courses.

Previous Studies

In the previous research, scholars' propensity to study from a pedagogical perspective is evident. For example, in their co-authored journal article Facilitating Chinese EFL Learners’ Critical Thinking Skills: The Contributions of Teaching Strategies, Sheng Wang and Sirinthorn Seepho use both qualitative and quantitative methods to collect data and propose designing effective teaching approach to assist students in thinking critically(Sheng Wang and Sirinthorn Seepho 2017). There is
also valuable contribution from non-Chinese scholars identifying International students' critical thinking-related problem areas from UK university teachers' perspectives (Nisbah Shaheen 2016). These research findings will give implications to the examination of conceptual gap between teachers from Chinese and Anglophone universities, which is one of the aims of this study.

More recent studies recast the previous debate and open up to greater possibilities. Siyi Lu and Michael Singh decode the negative connotation of the label "Chinese students" and suggest using "bilingual students" as an alternative. They attribute these students' learning deficit to more factors rather than merely blaming on the deficiency of Chinese education system. For instance, the inappropriate assessment is mentioned. (Siyi Lu and Michael Singh 2017). Lloyd and Nan observe that as critical thinking has gained "heightened attention in higher education", educators have “purposefully integrated critical thinking into student activities, particularly assessment items". (Lloyd and Nan 2010). The limitation of assessment instruments, as suggested by o'Loughlin, is obstructing the demonstration of Chinese students' capability to think critically. For example, the standardized English-only tests to gauge the critical thinking ability of students from China make invalid assumption of the second-language English competency (o'Loughlin 2013).

One aspect of assessment issues not addressed by the above research though, is to compare the existing means of assessment in both universities and reveal how these assessments, when weighed appropriately, can best collaborate to enhance students' critical thinking. The identification of the weight of each assessment is important as inferences drawn from the previous studies indicate that Chinese students can perform better when assessed properly.

Theoretical Framework and Assumptions

Theories from two areas of study will be applied to facilitate understanding of the problems arising from the investigation. These areas respectively are Gardener's Multiple intelligences Theory and James Assessment for Learning’ (AFL).

First, Individuals' intellectual abilities could be misinterpreted when it's assessed by a standardized test. These abilities are less likely to be fully displayed in a single assessment form(test) that is less instructional and reflective. Gardener's Multiple intelligences Theory can explain why self assessment can stimulate learner’s multiple intelligences such as verbal-linguistic intelligence, interpersonal intelligence and intrapersonal intelligence in English writing lessons (Gardner 1993).

Second, the purpose of this research is not just providing substantive grounding for the current assessment forms to be improved. Great importance is also attached to enhance student learning. That's how AFL theory provides a logical basis for analyzing and eliciting students' performance. As the evidence of formative assessment is mainly used to modify the teaching work, while the design and practice of AFL prioritizes learning enhancement (Black, Harrison, Lee, Marshall, & Wiliam 2004).

Based on the previous studies mentioned above and in light of the Multiple intelligences Theory and AFL theories, the following assumptions are to be evaluated:

3.1 Students' capability of critical thinking is not fully reflected by the limited question type in the English-only test.

3.2. Based on the responses from faculty members in BU, the fact that Chinese students are not well-informed of what is truly required of them in respect of CT may reveal.

3.3. Once teachers were facilitated to modify their assessment forms, evident improvement shall be seen, which means students' critical thinking skill were underestimated to some extent.

Research Methods

The research adopts a qualitative methods to collect data through sampling.

In order to fully examine what the difficulties relating to CT might be, all students (45) in GCC and 20 students who have studied in BU have been given a questionnaire that consists mainly of multiple choices as well as few short-answer questions. These questions cover the most commonly...
seen errors in students' test and assignments. The responses from students may well elicit and address the hypothesis mentioned above.

The reason why diagnostic multiple choices is used is that students' vague understanding of academic standards may inhibit their explanation with regard to their deficiency to meet the standards. Therefore, to avoid blank responses, multiple choices are chosen to identify their difficulties. However, the study also realizes the disadvantage of multiple choices and compensates it by supplementing open-ended questions and setting face-to-face interviews for students representatives to explain their choices.

Furthermore, face-to-face or email interviews will be given to 15 teachers in GCC and 15 teachers from BU. In this way, the findings may be fairly generalized to represent the whole target population.

Findings and Discussion

The findings will be presented in three sections: the differences in teaching syllabus and rubrics, the different forms of assessment, and questionnaires and responses analysis.

Studying Course Syllabus and Rubrics of Both Universities and Identifying the Discrepancy

Example 1

Course syllabus of Critical Thinking from BU

Learning outcomes

1. Formulate, clarify and evaluate arguments.
2. Explain and use basic philosophic concepts relevant to critical thinking (e.g., truth, validity, soundness, strength, cogency).
3. Recognize and name informal fallacies.
4. Analyze and evaluate arguments in scientific, causal, and analogical reasoning.
5. Analyze and evaluate developed arguments in context.

Course syllabus of Critical Skills and Academic Writing from GCC

This course builds on the skills learned in the prerequisite courses of composition I, II, and III and aims to further develop students’ academic skills including

1) Critical reading and writing skills
2) Ability to synthesize information from different sources into your own writing
3) Identifying and evaluating the credibility of sources
4) Crafting well-informed and carefully-reasoned arguments
5) Development and organizational strategies for essays
6) Evaluating others’ drafts and giving proper feedback
7) Revising and editing skills

All these skills will be developed in relation to academic reading and writing tasks, in which critical thinking skills is an integral part rather than a separate teaching topic.

Teaching Topics

Critical reading & writing skills

1) Identify the main idea, supporting details and transitions of paragraphs
2) Recognizing patterns of organization
3) Differentiating fact from opinion
4) Taking effective notes while reading
5) Summarizing and critically responding to an article
6) Evaluate electronic sources for purpose, source, and accuracy

Essay writing (details omitted)

Crafting arguments

1) Identifying issue, claim, reason and evidence
2) Recognizing different types of claims
3) Constructing claims and counterclaims
4) Using supporting evidence
(5) Establishing well-reasoned arguments
(6) Identifying logical fallacies

By comparing the curriculum of critical thinking courses in two universities, it’s easy to identify the difference. In BU, critical thinking skills are taught in a separate course which is designed particularly for critical thinking training. However, in GCC, critical thinking skills are incorporated into the writing course and therefore it’s an integral part of a language course. This fundamental difference leads to varied considerations when instructors designed the courses. For example, in BU, arguments are introduced to a much more sophisticated level, like “Explain and use basic philosophic concepts relevant to critical thinking (e.g., truth, validity, soundness, strength, cogency).” or “Analyze and evaluate arguments in scientific, causal, and analogical reasoning.”. These learning outcomes are not included in GCC’s course syllabus, which primarily guides students to assess their writing and information sources from a critical perspective. For example, “Differentiating fact from opinion, Taking effective notes while reading, Summarizing and critically responding to an article, and Evaluating electronic sources for purpose, source, and accuracy”.

Assessing the Varied Means and Contents in the Assessment in Both Universities

In BU, instructors use quizzes which are designed for assessing the validity of arguments. The questions in these quizzes require not only a good understanding of different parts of an argument, but also the ability to utilize them. For example, in one of the quizzes, there are seven true or false questions, fourteen multiple choice questions and four short-answered questions for students to answer. The true and false statements and multiple choice questions mainly check students’ understanding of claims, reasoning and evidences, logical fallacies and argument validity, while the short-answered questions are designed to assess students’ ability to analyze and evaluate developed arguments in context and apply critical thinking and problem solving skills to make effective decisions.

An example of an except from the quizzes:

Example 2

Part 1: Determine whether each of the following claims is True or False.
1. Superiority bias is the tendency to overrate oneself-- to see oneself as being better in some respect than the relevant evidence would support.
2. Information that is true may nevertheless be inaccurate or misleading if it’s either incomplete or separated from context.

Part 2: Multiple choice
8. When a statement has no pertinence to the subject at issue it is said to be
   a. Practically inconsistent.
   b. Irrelevant
   c. Logically inconsistent
   d. Unclear

Part 3: Short answer questions: Consider each of the brief scenarios, and then respond to each of the questions that follow:

Scenario 1: When Jim was 12 years old, he stole candy from 7-11 convenience store near his middle school. At the time, Jim didn’t think there was anything wrong with the stealing. “After all,” he thought, “Is it really wrong if you don’t get caught?” Now, Jim is 19 years old. As he’s learned more about the world and the nature of social relations, he’s come to view his former beliefs to be ignorant and selfish. “After all,” he assert, “stealing harms the owner of the 7-11 franchise and this causes prices to rise for all customers.” He now believes stealing is wrong.

   Explain a) what can a proponent of Moral Subjectivism consistently say about Jim’s evolving beliefs about stealing? Specifically, can a moral subjectivist claim Jim’s new belief “better” or “worse” than his former one? Then, b) identify at least one critical difficulty this example raises for the theory of Moral Subjectivism?

GCC students found it challenging to answer all these questions as there is a huge gap between what they were taught before and after they arrived BU.
Unlike the practice in BU, GCC instructors lay more emphasis on the ability to write critically and thus weave the critical thinking skills into the whole process of writing. In the initial stages when students collect information for their writing, they are introduced to different types of information sources and evaluate the credibility of these sources. There should also be able to distinguish facts from opinion and assess whether the writing is biased or not by checking how the author’s profession and background relates to the essay topic.

Table 1. A comparison of assessment forms of critical thinking skills in Bellevue University and Guangzhou College of Commerce.

<table>
<thead>
<tr>
<th>Bellevue University</th>
<th>Guangzhou College of Commerce</th>
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<tbody>
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<td>Types of assessment</td>
<td>Times/term</td>
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<td>Quizzes</td>
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<td>4</td>
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<tr>
<td>In-class writing task</td>
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</table>

The table shows Bellevue University offers formal critical thinking test and quizzes to students. This may reflect what Gardener's Multiple intelligences Theory suggest: formal test limits students ability to fully display their critical thinking skills. On the other hand, Guangzhou College of Commerce tends to assess the students in a more relaxed manner. In-class Q &A allows students to discuss with each other and in-class writing tasks may provide opportunities for students to write with the guidance and feedback from the instructor. Another characteristics of GCC’s assessment form is that it is almost all based on writing activities. Therefore, it's limited to a specific discipline and fails to enhance students’ ability to utilize critical thinking skills in more contexts.

**Interviews & Questionnaires**

Data for this study is collected using a questionnaire and interviews. The questionnaire is designed for students and it consists of three parts. Part 1 identifies the difficult question types and key knowledge in critical thinking assessment in BU. Part 2 discusses how the level of difficulty varies when critical thinking is incorporated into language courses or stands as an independent course. Part 3 collects students’ advise for developing appropriate testing of critical thinking in GCC.

65 students completed the questionnaire and their general responses to our first question is that these key knowledge in critical thinking assessment are mostly new to them. Among all the skills listed, there are a few being considered most difficult. More than half of the respondents categorize the following skills as challenging: Logical fallacies, applying critical thinking in problem solving, identification of a problem and assessing evidence.
In addition, interviews are also conducted through video conferencing, with some further explanation and confirmation through email. Three teachers who are currently teaching relevant courses are asked eight questions to elicit their perception from BU side. When asked the question “Do you think students should be reinforced in their perception of what critical thinking is”, all returned responses are positive. Respondents also agree that students’ unsatisfactory performance in CT-related courses in collegiate phase attributes to cultural differences and minimal exposure to critical thinking in primary and secondary education.

**Conclusion**

On the basis of the findings, several conclusions concerning the validity of the current assessment of critical skills in GCC can be drawn.

Results indicate the current assessment of critical thinking skills in GCC is diversified in its form rather than the content. Its teaching syllabus lay emphasis on the ability to write critically and...
therefore does not well match the learning outcomes of the critical thinking course in Bellevue University. A few more key skills are suggested to be added on the current GCC teaching syllabus: identifying logical fallacies, applying critical thinking in problem solving, identifying a problem and assessing evidence.

In light of the AfL theory that prioritizes learning enhancement in its design and practice, this study also take students perception into consideration. Most respondents uphold that both GCC’s Critical thinking and writing course and BU’s Critical skills are of benefit to them in their development of being critical thinkers, but there is evident gap between these two universities in their criteria of critical thinking ability.

The findings also support the notion that if the critical thinking skills are taught separately in a course, students’ critical thinking capability would develop more thoroughly and substantially.

Further research should entail a case study throughout an academic year and provide a statistical analysis to evaluate whether a bridging course from GCC side can help students develop these aptitudes in their early undergraduate years.

Acknowledgment

Project: Research on the discrepancy and alignment of critical thinking assessment between Chinese and American universities—A case study of Bellevue University and Guangzhou College of Commerce

Project Number: XJYB2017003

Reference


