

Questioning, Arguing and Reasoning: How English Academic Writing Courses Shape Undergraduates' Critical Thinking Ability

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Abstract

The three basic parts of undergraduate critical thinking in academic study are the focus of this paper. I will concentrate on students' ability to put forward good research questions, construct reasonable academic arguments, and use logic in their writing. This paper studies how the above practical thinking skills are developed in undergraduate English academic writing courses. According to data analysis, the three types of ability for students are not the same. Based on theories of second language acquisition and the development of critical thinking, a combination of both will be used. According to the first-hand records from class observation and the content of one-on-one semi-structured interviews and questionnaires, all the collected data will be used.

Keywords

English academic writing instruction; undergraduate education; critical thinking; questioning ability; argumentation and logic; teaching reform.

1. Introduction

1.1. Background to the Study

Competency-based education has been a hot topic in the development of higher education around the world recently. Critical Thinking is now one of the essential attributes that all college students should have. It can be used as an all-round index of the students' abilities in academic research. English academic writing is a required basic subject in the curriculum for college English students. Give the students a chance to present their research results to other students in China and conduct independent learning in their major. It serves to promote the development of students' thinking.

Writing a study paper needs to challenge the previous research ideas, build support for the argument logically and organise the thoughts rationally; in all these ways, one applies critical thinking. However, based on my observations of the current English academic writing courses, most of them have not achieved this. Most of the time spent teaching is used to correct students' mistakes in grammar, drill standardised writing templates, and explain standardised format rules. There is little focus on training for independent critical thinking. Most students end up writing formulaic, stereotypical papers. The works seldom put forward new research questions, and most of the arguments lack strong evidence or logic. Given the serious classroom problems, this paper aims to study how to link the teaching of academic writing with the enhancement of students' critical thinking in college.

1.2. The Importance of Research

1.2.1. Theoretical Value

Present studies in China still have certain shortcomings in the fields of critical thinking training and reform of the college English curriculum. The construction system of the above studies is extended in this paper. It will be specified how English academic writing courses alter students' sense of questioning, construction of arguments and logical thinking. It will address the absence

of local empirical research on how to combine writing instruction with the cultivation of critical thinking in Chinese universities. The analysis and conclusions of this paper can provide some theoretical support for the integration of second-language teaching and high-order thinking ability training in other areas.

1.2.2. Practical Significance

This paper presents a few basic, easily operated teaching activities to integrate critical thinking training in daily academic writing teaching. The above practical strategies have addressed the problem of writing courses having too much emphasis on language form and neglecting the development of students' analytical thinking. Frontline English teachers can change their teaching plans and classroom activities according to the above ways. It will help the students develop some basic writing skills and also begin to cultivate critical thinking. The above changes in teaching are in line with the current direction of talent cultivation at our university; that is, we want to foster new-generation students with research skills and the ability to think independently.

1.3. Core Research Questions

First, I learned about the actual study experiences and feelings of undergraduates in the English academic writing course and their current level of mastery in critical thinking skills such as questioning, argumentation and reasoning.

Some typical problems students have in formulating reasonable research questions, constructing evidence-based arguments and ensuring the logical coherence of their writing will be addressed in this paper. It also examines students' understanding of academic writing norms, their usual ways of building argumentative essays, and the main reasons why they fail to think critically in schoolwork. To find out why students' writing is not good and what kind of thoughts they have, first sort out the results of their writing. Thus, the teacher will be able to develop more specific teaching plans and assess whether the intervention in teaching has been successful.

I would like to clarify the different promotion effects of English academic writing training on students' willingness to ask questions, ability to construct arguments and logical reasoning ability. Most studies have generally concluded that teaching is effective, but this paper will examine the various traditional classroom writing tasks separately. How to foster all kinds of critical-thinking abilities in different teaching activities is explored. Thesis drafting, evaluation of literature sources, screening of evidence and outlining of essays are all related to ability training. Some tasks help students find the research deficiencies in existing studies, others lead them to defend their own views with reliable academic materials, and still others are for training inductive and deductive reasoning. By dividing them, we can better determine which writing exercises are suitable for cultivating different types of critical thinking in students.

In addition to the above, this paper will also examine the actual difficulties in the current academic writing courses that hinder the improvement of students' critical thinking. There are obvious mismatches between the official teaching goals and the actual teaching in class. Most teachers put too much emphasis on grammar normalisation and template-based writing, and there is almost no time in class for analytical thinking training. Writing courses rarely provide direct instructions on how to think critically, and the class's grading system does not evaluate the development of students' thinking. Deficiencies in the professional training of teachers and in the design of the curriculum also restrict students' chances of independent questioning and logical thinking during writing.

Based on the above, the paper will explore some optimisation plans for classroom teaching. Find a reasonable way to design writing activities that can help students improve their English academic writing skills and critical thinking simultaneously. The old-fashioned writing teaching has been mainly grammar drills and vocabulary memorisation. Whole-process writing teaching

designs in this study cover all stages, including topic selection, reading literature, writing a first draft, revising, etc. All teaching activities can have students put forward their own research questions, construct evidence-based arguments, and carry out independent logical analysis with less teacher guidance; at the same time, their writing skills and critical thinking will also be improved.

2. Literature Review: Critical Thinking Training in Tertiary Education

2.1. Studies on English Academic Writing Teaching

Teaching of college English academic writing has changed significantly in recent years. In the early days of teaching, grammar and vocabulary were the main focus, but students' thinking was neglected. Nowadays, there has been a change in teaching concepts, and emphasis is now placed on developing students' academic literacy and high-order thinking ability. Now, teaching is no longer just about conveying scattered knowledge of language. Now, it is to cultivate the all-round research quality and critical thinking ability of students.

Domestic research on the teaching reform of college English writing has also achieved some good results. Many studies have explored new modes of teaching, assessment systems and curriculum reform to help students better develop analysis and argumentation. Still, there are still many problems in the field. Most theoretical teaching frameworks are difficult to be realised fully in the actual classroom. There are few studies to determine if the new form of teaching is effective. Uneven professional literacy of teachers and a lack of teaching materials also hinder the further development of the writing curriculum reform.

2.2. Research Linking Writing Instruction and Critical Thinking Cultivation

I have organised foreign research results from various places on the integration of teaching second-language academic writing and critical thinking training, and also learned about the classic theoretical model and effective classroom strategies used in Western higher education. At the same time, I have also organised domestic empirical studies on the correlation between college English writing courses and the development of critical thinking, and analysed the applicability of local teaching intervention methods and assessment tools in Chinese university teaching.

Through the sorting of literature, I have summarized the main research hot spots and new development trends in this interdisciplinary field. It is found that there are general methodological defects, theoretical blanks and even contradictory research results in the existing studies. Through a general overview of the literature, this paper specifies the deficiencies in the current studies and identifies some new contributions that will be made to the research of writing teaching and critical thinking cultivation.

3. Theoretical Foundation

3.1. Critical Thinking Theory

Facione's old model of critical thinking will be used as the theoretical foundation for this paper [1]. Based on the research background of college English academic writing, three indicators of critical thinking that are suitable for this study have been developed. Questioning ability is the proactive investigation and reasoning in terms of students' previous study results and existing academic knowledge. Argumentation ability is the ability of students to present their own academic opinions and support them with strong, reasonable reasons. Reasoning ability is a student's ability to use systematic logical deduction and organise the content of writing in an orderly manner. This paper will provide the goals and criteria for judging students' work in all areas.

3.2. Constructivist Second Language Acquisition Theory

According to constructivist learning theory, students learn by actively building their own knowledge rather than receiving it passively from teachers. Teaching of English academic writing is consistent with this idea of learning. In the course of writing academic papers, students will naturally question the conclusions of existing academic studies, form their own academic views, and independently organise and adjust the logic. Therefore, the basic idea of this paper is that continuous reading training helps foster students' ability to think critically.

3.3. Academic Literacy Theory

Academic literacy includes many other things than basic English language expression ability. The basic academic ability of thinking and basic research is needed for the student to participate in the formal study activities listed in [2]. Critical thinking is about deep reading of scholarly works and screening and evaluating information to find reliable sources; thus, it can be included in the general framework of school-based education to foster the spirit of scientific research and evidence-based argumentation. When teachers lead students to question the basic premises of academic knowledge and construct their own logical views and coherent discourses in the writing course, it can help students improve their overall academic literacy and critical thinking.

4. Empirical Investigation and Result Analysis

4.1. Research Design

This paper will introduce the selection criteria, basic demographic information and total number of undergraduate research participants. The three typical attributes of ability in the design of this questionnaire are question skills, argument construction and logical reasoning ability. The general ideas of the semi-structured interviews are open-ended questions that can be used to explore students' metacognition in their studies of academic writing and practical problems they encounter during the writing process. Reasonable observation indicators for classroom investigations will also be set up in this paper, such as teacher-student interaction, peer feedback activities and teachers' use of critical thinking guidance strategies in writing teaching [3]. Standardize the links of data collection, distribution of questionnaires, interviews, coding and analysis of data to ensure the reliability and validity of the research data.

4.2. Undergraduates' Current Critical Thinking Performance

Based on the data statistics and analysis of the research samples in this paper, the overall level of critical thinking and prominent differences in the three sub-dimensions have been summarized. Most undergraduate students cannot put forward rich, meaningful research problems. The academic arguments are generally without reliable support, and the whole logical structure of the papers is often disjointed and incoherent [4]. The general problems suggest that the students have issues with thinking; at the same time, they also offer a direction for special training in class.

4.3. Current State of English Academic Writing Instruction

Four aspects of the current situation of college English academic writing courses will be studied in this paper: teaching content, classroom activities, teaching focus and student achievement evaluation standards. Examine the setting of curriculum content, daily teaching operation mode, main training goals and assignment scoring criteria. By the above sorting and analysis, this paper briefly introduces the main features, development trends and outstanding deficiencies in current college English academic writing teaching [5].

4.4. Correlation Between Writing Instruction and Critical Thinking Development

Correlational analysis and regression model tests will be carried out on the quantitative survey data in this paper. According to the above empirical results, continuous and standardised teaching of academic writing is positively related to students' questioning ability, level of argumentation and logical thinking. The paper also shows the correlation strength and direction of the two variables, and studies how students' various types of critical thinking skills are formed in the process of structured writing practice.

5. Influencing Mechanisms and Existing Teaching Deficiencies

5.1. Positive Impacts of English Academic Writing Courses on Critical Thinking

5.1.1. Cultivating Students' Habit of Active Questioning

To write an academic paper, all kinds of reading and research should be done first. In the process of organising the collected materials, students should be able to perceive various schools of thought in the academic community, critically assess the conclusions reached by earlier scholars, identify new problems or omissions in current research, and thus inspire their own ideas. Standardization of the writing training process can cultivate students' habits of independent study and help them develop the ability to think freely in research according to disciplinary norms.

5.1.2. Standardizing Students' Academic Argumentation Skills

Academic Writing should have a thesis, supporting data, refutation of counter-arguments, etc. These norms will help students learn how to organise their study arguments in a standardised manner and develop the ability of independent thinking in their studies [6]. Students usually have a clear main idea, can gather reliable and useful supporting evidence for their arguments, and respond to counterarguments to strengthen their own positions; therefore, they do not fall for superficial subjective judgment and develop rigorous and reasonable academic thinking. Prolonged, regular writing instruction can form a fixed way of thinking for students and enable them to build novel, practical studies in professional fields.

5.1.3. Refining Students' Logical Reasoning Standards

At all times during the writing process of school essays, students are being trained in inductive thinking, deductive reasoning and other types of analysis by creating the structure and contents. Students need to clarify the main idea, organise the logic of paragraphs reasonably, add more evidence and summarise research results. The operation path should be reasonable and strictly adhered to [7]. Through continuous writing practice, students' basic reasoning abilities will be enhanced and they will learn to solve problems in a systematic way.

5.2. Major Deficiencies in Current Writing Teaching

5.2.1. Teaching Goals Overlook Critical Thinking Training

Most front-line teachers' main teaching objectives in daily classes are language accuracy and standardisation of writing format. They rarely organise specific guidance for students' innovative questions and independent thinking, and there is no regular training in argument construction and logic. Classroom teaching has focused too much on correcting superficial language errors and is unable to address the deep cognitive process required for the development of critical thinking.

5.2.2. Rigid Teaching Modes Restrain Independent Thinking

Teacher-centred indoctrination teaching is still the main mode of English academic writing instruction [8]. Teachers are the only source of knowledge in the classroom, and teaching takes the form of one-way information output. There are no open multi-perspective discussions in

the classrooms, nor are there standardised academic debate activities or exploratory writing tasks based on open research topics. A single classroom is too rigid; therefore, it does not help students develop critical thinking and independent study skills.

5.2.3. Incomplete Teaching Evaluation Mechanisms

Most current writing evaluation is based on the final completed essays, and there is little formative assessment that observes changes in students' thinking and abilities during the writing process. The current scoring criteria do not specify the basic critical thinking abilities needed for formulating a good research question, organising reasons logically, etc. There is no specific evaluation objective, so it is not known what to advise students to improve in terms of analysis and learning.

5.2.4. Students Lack Active Learning Motivation

Many undergraduate students have a passive learning attitude in the study of academic writing. They merely memorize the writing knowledge and superficially read the literature; they do not deeply study or critically analyse academic materials. Few students are willing to carry out independent thinking or question the authoritative views in the textbooks. Most students use the same writing template for their homework. The habit of passive learning has weakened students' ability to think independently, making it difficult for them to objectively analyze the evidence in class and support their own arguments with reason.

6. Optimized Instructional Strategies for English Academic Writing Courses

6.1. Refresh Teaching Philosophy and Prioritize Critical Thinking Training

Teachers should stop having a single idea that only focuses on grammar norms and language expression. The cultivation of critical thinking should be the main objective of English academic writing teaching. Teachers can integrate questioning guidance, argument training and logical reasoning exercises at all stages of writing instruction, such as topic selection and literature organisation, draft writing and revision [9]. The above combination of teaching methods can help students improve their general English writing ability and cultivate a good habit of autonomous study.

6.2. Restructure Classroom Modes to Build Exploratory Writing Sessions

We need to move away from the old single-lecture teaching model and adopt a student-oriented interactive teaching mode, such as problem-driven task training, group academic debate, critical literature review writing, etc. All sorts of classroom activities have moved away from the traditional teacher-led teaching mode and created an atmosphere where students can learn collaboratively and explore problems together.

Problem-based teaching gives students open academic research problems to solve, so they need to gather materials, organise them, and analyse the meaning of the problem in writing. Group academic discussion helps students do some initial research before writing, build an entire system of arguments, anticipate other people's counterarguments, and use strong supporting materials to protect their own opinions; thus, they can exercise logical analysis and refutation skills [10]. Critical reading of other people's papers is relatively easy to do, so students can write about their own research on a specific subject more readily. These exploratory activities can fully stimulate students' inner motivation, make them question the conventional wisdom in school, learn to construct independent reasons and adhere to logical rules in writing, thus creating a classroom rich in academic inquiry and thought exchange.

6.3. Design Tiered Writing Tasks to Target Separate Thinking Dimensions

The three fundamental contents of critical thinking in this paper are:

To improve students' sense of inquiry, problems and research deficiencies in literary analysis and inquiry have been identified. Students should organise the results of their previous studies, find any hidden academic assumptions and outstanding problems in research, and put forward new and valuable questions.

The purpose of thesis defence and counter-argument writing drills is to normalise students' academic argumentation ability. Students can construct academic opinions based on evidence and respond to different views of academics rationally in order to strengthen their own arguments.

To help students strengthen their logical reasoning ability, some of the exercises are essay outline sorting and logical error correction. Organize the writing structure and rectify logical errors so that students can learn to organise their thoughts more logically in academic essays.

6.4. Perfect Evaluation Systems and Prioritize Process-Based Assessment

Establish a comprehensive evaluation system at the university to cover all links in the formation process and the final results of the students. The three levels of assessment can all record the changes in students' writing and critical thinking over time [11]. Schools should adjust the original writing score standards, add specific assessment indicators for questioning awareness, the rationality of arguments and discourse logic, and change the focus of assessment from the quality of the final paper to continuous thinking development. The new assessment system considers students' ability to use language and their quality of academic thought to conduct a general and reasonable evaluation of the effect of writing teaching.

6.5. Upgrade Teacher Training to Improve Critical Teaching Competence

Universities can organise regular professional training for English teachers to focus on critical thinking theories and new teaching methods for academic writing [12]. Training can create a teaching system to link students' cognitive development with writing practice, and teachers can learn some simple and practical teaching methods to incorporate thinking training into their daily writing classes. Equipped with these professional teaching skills, teachers can better lead students in the development of critical thinking in writing instruction and achieve the harmonious integration of language expression training with cultivation of analytical thinking in class.

7. Conclusion and Future Research Directions

7.1. Core Research Findings

Based on the above research, standard English academic writing training can help improve students' critical thinking in college. It can help students develop the habit of independent inquiry in study, organise their own reasoning, improve their sense of logic, and other similar effects. At the same time, the study also finds that there are obvious restrictive factors in current college English academic writing courses to the cultivation of critical thinking. The main reasons limiting the improvement of students' critical thinking ability are that the teaching focus and the goals of thinking training are not aligned, rigid classroom teaching modes, and an imperfect evaluation system. Based on the above practical problems, targeted teaching can be optimised to compensate for the deficiencies of traditional teaching and promote the synchronous improvement of students' English academic writing ability and critical literacy.

7.2. Prospects for Follow-Up Research

Later, in line with the first study's requirements, more subjects can be added to broaden the generalisation of the results. Research has been conducted over a long period to see how the ability of students in critical thinking changes with more time in writing training. Researchers can design various teaching plans for students in different majors and at different levels of

English proficiency. Based on the above empirical exploration, a general curriculum system that combines the teaching of English academic writing and cultivation of critical thinking will gradually be formed.

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