

**THE DEVELOPMENT AND EFFECTIVENESS
OF ATMB ENGLISH WRITING MODULE
ON CHINESE UNDERGRADUATES'
ARGUMENTATIVE WRITING
SKILLS, AND SELF-EFFICACY**

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by

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LIST OF ABBREVIATIONS

ADDIE	Analysis, Design, Development, Implementation, and Evaluation
ATMB	Adapted Toulmin Model Based
AWS	Argumentative Writing Skills
CET 6	College English Test Band 6
CETG	Chinese English Teaching Guide
CMOE	Chinese Ministry of Education
CV	Content Validity
EFL	English as a foreign language
EFL	English as a foreign language
ID	Instructional Design
L2	Second Language
QUAL	Qualitative Study
QUAN	Quantitative Study
RO	Research Objective
RQ	Research Questions
SE	Self-efficacy
USM	Universiti Sains Malaysia

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**PEMBANGUNAN DAN KEBERKESANAN MODUL PENULISAN BAHASA
INGGERIS ATMB PADA KEMAHIRAN PENULISAN ARGUMENTATIF
KEBERKESANAN DIRI PELAJAR SARJANA CINA**

ABSTRAK

Pembangunan kemahiran menulis argumentatif bahasa Inggeris (AWS) dan efikasi sendiri (SE) dalam kalangan mahasiswa Cina adalah penting untuk kejayaan akademik dan komunikasi profesional masa depan mereka. Walaupun kepentingannya, ramai pelajar Cina kurang kesedaran tentang AWS dan SE dalam penulisan argumentatif mereka. Kajian ini menangani cabaran ini dengan mereka bentuk dan menilai keberkesanan modul penulisan Bahasa Inggeris Berasaskan Model Toulmin (ATMB) Adapted yang direka untuk meningkatkan AWS dan SE dalam kalangan pelajar Cina. Kajian ini menggunakan reka bentuk penyelidikan kaedah campuran, menggabungkan reka bentuk kuasi eksperimen dengan temu bual separa berstruktur kualitatif. Peserta termasuk 70 pelajar tahun kedua dari dua kampus Universiti Y di China, dibahagikan kepada kumpulan eksperimen ($n=35$) yang menggunakan modul ATMB dan kumpulan kawalan ($n=35$) yang mengikuti arahan penulisan tradisional. Data kuantitatif dikumpul melalui ujian pra dan pasca untuk AWS dan soal selidik pra dan pasca untuk SE, manakala pandangan kualitatif dikumpulkan melalui temu bual separa berstruktur dengan 10 pelajar daripada kumpulan eksperimen. Hasil daripada analisis kuantitatif menunjukkan peningkatan yang ketara dalam AWS kumpulan eksperimen, terutamanya dalam kandungan (tuntutan, alasan, waran, kelayakan dan penolakan), organisasi (struktur dan koheren) dan bahasa (klausa bawahan). Begitu juga, kumpulan eksperimen menunjukkan skor SE yang lebih tinggi merentas pengalaman penguasaan, pengalaman wakil, pujukan lisan dan keadaan fisiologi

berbanding kumpulan kawalan. Penemuan kualitatif menyerlahkan lagi pengalaman positif pelajar dengan modul ATMB, termasuk AWS yang dipertingkatkan dan peningkatan SE, walaupun beberapa cabaran, seperti kerumitan sanggahan, telah diperhatikan. Kajian ini menekankan nilai pedagogi modul ATMB dalam memupuk kedua-dua AWS dan SE. Ia menyediakan bukti empirikal yang menyokong integrasi ATM dalam pengajaran penulisan argumentatif. Syor termasuk memperluaskan tempoh intervensi dan meneroka kebolegunaan modul merentas pelbagai konteks pembelajaran. Penemuan ini memberikan nasihat berguna kepada pendidik, pembangun kurikulum dan penggubal dasar yang bertujuan untuk meningkatkan pengajaran penulisan bahasa Inggeris dalam pendidikan tinggi Cina. Kesimpulannya, kajian ini memberi sumbangan teori dan praktikal. Secara teorinya, ia mengesahkan rangka kerja tiga pihak yang merapatkan ATM, teori konstruktif sosial dan teori SE. Secara praktikal, ia menyediakan pendidik dengan pelan tindakan yang boleh ditiru untuk mengajar penulisan argumentatif yang mengimbangi ketepatan struktur dengan sokongan interaktif dan motivasi. Apabila arahan bahasa Inggeris berkembang secara global, pembangunan modul ATMB menawarkan penyelesaian berskala untuk membangunkan AWS dan SE yang diperlukan dalam konteks akademik. Penyelidikan masa depan harus membina asas-asas ini untuk meneroka penyesuaian untuk populasi pelajar yang pelbagai dan integrasi teknologi, memastikan perkaitan penulisan Bahasa Inggeris ATMB yang berterusan dalam landskap pendidikan yang berkembang.

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ABSTRACT

The development of English argumentative writing skills (AWS) and self-efficacy (SE) among Chinese undergraduates is critical for their academic success and future professional communication. Despite its importance, many Chinese students lack AWS and SE in their argumentative writings. This study addresses these challenges by designing and evaluating the effectiveness of an Adapted Toulmin Model-Based (ATMB) English writing module aimed at enhancing AWS and SE among Chinese undergraduates. The study employed mixed-methods research design, combining a quasi-experimental design with qualitative semi-structured interviews. Participants included 70 second-year undergraduates from two campuses of Y University in China, divided into an experimental group (n=35) that used the ATMB module and a control group (n=35) that followed traditional writing instruction. Quantitative data were collected through pre- and post-tests for AWS and pre- and post- questionnaires for SE, while qualitative insights were gathered via semi-structured interviews with 10 students from the experimental group. Results from the quantitative analysis revealed significant improvements in the experimental group's AWS, particularly in content (claim, grounds, warrant, qualifier, and rebuttal), organization (structure, and coherence), and language(sub-ordinate clauses). Similarly, the experimental group demonstrated higher SE scores across mastery experiences, vicarious experiences, verbal persuasion, and physiological states compared to the

control group. Qualitative findings further highlighted students' positive experiences with the ATMB module, including enhanced AWS and increased SE, though some challenges, such as the complexity of rebuttals, were noted. The study underscores the pedagogical value of the ATMB module in fostering both AWS and SE. It provides empirical evidence supporting the integration of ATM into argumentative writing instruction. Recommendations include expanding the intervention duration and exploring the module's applicability across diverse learning contexts. These findings offer valuable insights for educators, curriculum developers, and policymakers aiming to improve English writing instruction in Chinese higher education. In conclusion, this research makes both theoretical and practical contributions. Theoretically, it validates a tripartite framework that bridges ATM, social constructive theory, and SE theory. Practically, it provides educators with a replicable blueprint for teaching argumentative writing one that balances structural precision with interactive and motivational supports. As English medium instruction expands globally, the ATMB module's development offers a scalable solution for developing the AWS and SE needed in academic contexts. Future research should build on these foundations to explore adaptations for diverse learner populations and technological integrations, ensuring the ATMB English writing's continued relevance in evolving educational landscapes.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Writing, as a fundamental tool for communication and knowledge dissemination, plays an indispensable role in both academic and professional spheres. It enables individuals to articulate thoughts, organize ideas, and convey information in a structured manner, serving as a cornerstone for learning, collaboration, and innovation (Hyland, 2021). In educational contexts, writing is not merely a skill but a process that fosters critical thinking, logical reasoning, and deep engagement with subject matter, which are essential for academic achievement across disciplines (Matsuda, 2020). For university students, proficiency in writing directly impacts their ability to complete assignments, participate in academic discourse, and prepare for future career demands, as effective written communication is universally valued competency in the workplace (Aull & Lancaster, 2022).

Within the context of China, writing assumes even greater significance as a bridge between language acquisition and practical application. It allows students to integrate linguistic knowledge such as vocabulary, grammar, and discourse structures into meaningful expression, thereby facilitating their participation in global academic exchanges and cross-cultural communication (Wang & Li, 2023). Argumentative writing, as a key genre within writing curricula, further emphasizes the ability to construct claims, grounds, and address rebuttal skills that align with the demands of international academic environments and multinational workplaces (Chen & Zhang, 2024). This foundational role of writing, and argumentative writing in particular, underscores the necessity of enhancing Chinese undergraduates' proficiency in this

area to support their academic development and future career readiness. For Chinese undergraduates, whether pursuing further studies abroad or entering multinational enterprises, the ability to present compelling claims, grounds with warrant, and show opposing ideas in English is not only a prerequisite for academic success but also a core competency in cross-cultural communication, directly affecting their career development in the globalized job field (Zhao et al., 2023). This unique national context underscores the urgency of improving Chinese undergraduates' English argumentative writing skills to meet both domestic educational goals and international development needs.

In response to the growing emphasis on English argumentative writing, enhancing the quality of Chinese undergraduates' argumentative writing has become a national priority in recent years. Reflecting this focus, the Chinese Ministry of Education (CMOE, 2020) introduced the College English Teaching Guide (CETG), which mandates that university argumentative writing teachers adhere to updated pedagogical standards for argumentative writing instruction. The CETG explicitly emphasizes the development of students' ability to construct logically coherent arguments, requiring them to produce well-substantiated claims supported by sound grounds with warrants, appropriate qualifiers, and relevant rebuttals. This directive underscores the critical role of higher education institutions in systematically teaching argumentative writing skills, aligning classroom practices with national educational objectives to meet the demands of academic and professional communication in a globalized context.

In Chinese university, argumentative writing skills (AWS) is the focus of main language proficiency tests (Zhang et al., 2023; Zhang, 2018 ;Yang, 2022), such as, Chinese English Test for college students (Band 4), Chinese English Test for college

students (Band 6), International English Language Testing System (IELTS), Postgraduate Entrance Examination, College Student English Competition, FLTRP "National Talent Cup" Writing Contest, IELTS and TOEF (Zhang et al., 2023; Pei et al., 2017) and so on.

Moreover, the AWS is closely connected to graduation prerequisites and employment prospects, thereby inspiring Chinese undergraduates to go for it in both their personal and professional spheres. It is worth noting that employers often prioritize candidates with high AWS, as it is crucial for effective communication and documentation (Hodgman, 2023). There are also studies indicating that a high AWS is positively correlated with strong critical thinking and problem-solving ability, which are highly sought after in professional settings (Sandra et al., 2024). However, English argumentative writing is challenging for Chinese college students (Yang, 2022). Most students get lower argumentative writing achievement (Jiang, 2023).

Apart from AWS, the concept of self-efficacy (SE), defined as a person's belief in their ability to succeed in a particular situation (Bandura, 1977), is paramount for undergraduates (Dewi et al., 2023) in educational settings in recent years. SE significantly influences the goal-setting process, self-regulation, self-assessment, and learning strategies use. Students with academic confidence tend to embrace the more challenging tasks, employ more efficient self-regulatory learning strategies and demonstrate greater perseverance, while low SE can hinder students' willingness to set demanding goals, participant in and maintain. This interplay is crucial for achieving academic success (Chung et al., 2021).

In China, SE is a strong predictor of higher academic success (Chen, 2020). To elaborate, it is found significant correlations between linguistic SE, performance SE and the writing performance of undergraduate students in China (Teng et al., 2018). Students with higher SE tended to outperform students with lower SE. In addition, due to the perceived difficulty of English writing among Chinese students, it is thus imperative to enhance Chinese students' SE as it is believed that SE is vital in increasing students' writing motivation and shaping students' beliefs in achieving goal (Sun & Wang, 2020; Chung et al., 2021). Addressing writing challenges through greater SE can result in higher achievements in academic writing pursuits (Zhou et al., 2022).

Aside from influencing students' academic success, SE plays a considerable influence on students' future jobs. Students who possess high SE in universities exhibit high preparedness for future job opportunities (Elfina & Andriany, 2023). Also, their SE established in universities positions them to learn new language skills and adapt to various job settings quickly (Ho et al., 2023).

In exploring the ways of how to integrate AWS and SE into English argumentative writing in Chinese context, adapted Toulmin Model (ATM) could be the ideal model. ATM, which is developed by Liu (2023), is an adapted and enhanced version of Toulmin's model designed to improve argumentative writing. The model introduced a hierarchical structure that better reflects the complexity of academic argumentation (Liu, 2023). Its main argument includes three key elements: claim, grounds, and rebuttal. Its key strength lies in systematizing sub-arguments through nested "subclaim-grounds-warrant" cluster, which addresses a critical limitation in Toulmin's original model the oversimplification of evidence hierarchies. The model also explicitly integrates rebuttals as parallel structural element, addressing the

"rebuttal neglect" common in EFL writing (Zhang, 2023). The use of ATM is growing rapidly because it is effective in facilitating AWS among Chinese undergraduates using this model (Liu (2023; Liu & Xiong, 2024).

Considering the significance of AWS and SE in equipping Chinese undergraduates for their studies and future job pursuits, there is an immediate necessity to develop an Adapted -Toulmin- Model-Based (ATMB) English writing module and examine its effectiveness for Chinese undergraduates to improve their AWS and SE.

1.2 Background of Study

In the Chinese context, the importance of English argumentative writing has been further highlighted by the country's deepening integration into global academic and economic networks. With China's increasing participation in international research collaborations, academic publications in English have become a critical channel for Chinese scholars to showcase their research outcomes, and proficiency in argumentative writing is indispensable for constructing compelling research arguments in such publications (Li & Wang, 2022; Yang & Chen, 2024). Moreover, in the context of China's university construction initiative, which aims to build world-class universities and disciplines, cultivating students' English argumentative writing skills has been listed as a key indicator of enhancing international competitiveness of higher education (Ministry of Education, 2021).

To prepare Chinese undergraduates for meeting these international academic communication demands, Chinese universities provide one-year argumentative writing courses (MOE, 2024). These English courses aim to prepare students for varied academic exams during university and international academic communication in their

future careers. Along with the training of AWS, the improvement of SE is also integrated into argumentative writing courses, aiming to prepare Chinese undergraduates for effective written communication.

These Chinese undergraduates, typically aged between 19 and 21, foreign language was English, and their English writing level is at improvement level. In this study, the respondents chosen from Chinese undergraduates were 70 students from two intact classes. The two classes are from two campuses located in Shanxi province, the northern of China. There are 35 students in the control group who are majoring in education, and 35 students in the experiment group whose major is management. Argumentative writing is a compulsory course for them, and they are expected to achieve the C⁺ at the end of the second year according to the assessment schedule of argumentative writing courses.

Authoritatively, to guarantee the quality of argumentative writing courses, Chinese Ministry of Education (CMOE, 2020) has instituted the College English Teaching Guide 2020 (hereinafter CETG 2020). The CETG 2020 provides the underlying structure for universities and colleges to create English curricula for non-English majors, mandating English argumentative writing as a compulsory genre for second-year Chinese undergraduate and emphasizing AWS as a primary priority.

In details, CETG 2020 has divided the AWS requirements (Table 1.1) at university into three levels, namely fundamental, Improvement and developmental levels. For each level, the framework integrates both content skills, organization and language skills. At the foundational level, content objectives require students to exhibit basic skills in presenting personal claims; construct basic argumentative structures; connect basically ideas coherently using cohesive devices. At the improvement level,

content objectives require students to demonstrate skilful skills in presenting personal claims; employ a clear argumentative structure; connect effectively ideas coherently using cohesive devices. At the developmental level, content objectives require students to demonstrate advanced mastery of clear claim, strong reasoning, effective rebuttal; construct highly clear; connect ideas highly coherently using cohesive devices. Moreover, Chinese higher education institutions require that the EFL syllabus be customized to meet the distinct needs of each university and colleges in accordance with CETG 2020, emphasizing the need of accommodating different levels of language ability and addressing varied academic requirements.

Table 1.1

AWS Requirements in CETG 2020 from (CMOE, 2020)

Objectives:	Content	Organization and Language
Fundamental	1. Be able to basically use argumentative writing skills to express personal claim.	1. Be able to construct a basic structure that includes a claim and supporting evidence. 2. Be able to employ some relevant subordinate clauses. 3. Be able to basically connect ideas coherently using cohesive devices.
Improvement	1. Be able to skillfully use argumentative writing skills to express personal claims after analyzing and summarizing information obtained from different sides.	1. Be able to construct a clear structure that includes a clear claim and some supporting evidence. 2. Be able to employ some accurate subordinate clauses. 3. Be able to effectively connect ideas coherently using cohesive devices.
Developmental	1. Be able to effectively complete an argumentative essay with that includes a clear claim, effective grounds with warrant, suitable qualifiers	1. Be able to construct a highly clear structure. 2. Be able to employ a clear structure and use cohesive devices effectively. 3. Be able to use kinds of subordinate clauses.

In addition, the College English Teaching Guide 2020 (CETG 2020) specifies criteria for assessing argumentative writing skills. Assessment is to judge whether college students' English argumentative writing skills has achieved the specified goal, and to provide effective feedback for college English argumentative writing courses. The assessment for English argumentative writing skills in the guide is designed to evaluate Chinese undergraduates' AWS. This assessment includes a continuous evaluation, a midterm examination, and a final examination. The final examination scores are determined by the content (Claim, Supporting details, Refutation, organization (structure, cohesion/coherence), and language (vocabulary, sentences and grammar) criteria of students' English argumentative writing.

To effectively assess Chinese undergraduates' AWS, holistic scoring rubric for argumentative writing is supported rather than analytical rubric. Holistic scoring rubrics can offer more authentic measurement and better feedback, as they assess overall performance including content, organization, and language, rather than isolated components, which is crucial for argumentative writing (Lu & Zhang, 2013; Layman, 2021). The table 1.2 below displays the components of scores of English argumentative writings in CETG 2020.

Table 1.2

English argumentative Writing Assessment Scheme

Criteria	Sub-criteria	Final Exam
Content	Claim, Grounds, Warrant, Qualifiers, and Rebuttal	50%
Organization	Structure and Coherence	25%
Language	Sub-ordinate Clauses	25%

(Y University: English argumentative Course for College Students, 031101C, 2023/2024)

Apart from the curriculum, AWS are also emphasized in employment markets. Studies (Ferretti & Graham, 2019; Sandra et al., 2024; Jimola & Olaniyan, 2021) shows that Eighty-two percent of employers favor students who possess strong argumentative writing abilities, as it indicates that they are capable of sophisticated written communication and are prepared for employment. In addition, Gudkova (2021) emphasizes that AWS is critical in the context of employment as developing AWS can enhance communication in the workplace by helping individuals present ideas in a logical manner, support them with arguments, and discern weaknesses in others' reasoning. shows that 82 percent of employers prefer students with high AWS.

Beyond AWS, the importance of SE was emphasized in effective academic communication (Schunk & DiBenedetto, 2021). In China, this emphasis is evident across various educational levels, from kindergarten to higher education to graduate education, as SE has been acknowledged as a significant factor in educational outcomes, aiming to enhance students' SE to improve the achievement of students' learning objectives and the effectiveness of addressing educational challenges (Akhter et al., 2022).

In the field of argumentative writing, according to CETG 2020 (CMOE, 2020b), one of the key objectives of argumentative writing is to enhance the SE of Chinese students, thereby enabling them to write effectively in both academic and professional contexts. In detail, besides acquiring argumentative writing knowledge and fostering the skills to become effective learners, it encourages students to develop SE, enabling students to be effective in academic contexts and future jobs.

Moreover, in China, some empirical studies on SE in argumentative writing showed the importance of improving SE. Teng and Wang (2023) have contributed significantly to this field by identifying Chinese undergraduates' low SE in language learning, emphasizing the importance of developing SE. The study of Tao and Yu (2024) emphasized the role of SE, which significantly predicts writing proficiency. In addition, the studies of Su' (2024), Sun and Wang (2020) and Teng et al. (2018) study indicated that Chinese undergraduate' writing SE positively correlates with the use of automated writing evaluation system, suggesting the importance of improving Chinese undergraduates' SE through advanced teaching tools. These issues frequently arise within the writing context, underscoring the essential function of writing in fostering the SE.

SE plays a pivotal role in Chinese undergraduates' English argumentative writing development, particularly within Bandura's (1977) four dimensions. Mastery experiences significantly predict writing persistence, as demonstrated by Teng et al. (2022), whose longitudinal study of 1,200 Chinese EFL learners revealed that students with accumulated writing successes showed 37% greater task engagement. Vicarious experiences enhance skill acquisition through modeling, evidenced in Zhou's (2023) experimental study where exposure to peer exemplars improved argument structure by 28% compared to control groups. Verbal persuasion through formative feedback substantially impacts confidence, with Chen and Wang's (2024) meta-analysis of 15 Asian writing studies showing teacher/peer commentary accounted for 31% of self-efficacy variance. Lastly, physiological state regulation correlates with performance, as Huang et al. (2023) established through biometric measurements: students trained in anxiety-reduction techniques produced 23% more complex arguments than peers under stress. These empirical findings collectively justify examining all four

dimensions, as they operate synergistically in the Chinese EFL context where writing demands intersect with high-stakes assessment pressures (Li & Zhang, 2024).

1.3 Statement of the Problem

Despite CETG 2020 pointing out the direction for argumentative writing, Chinese undergraduates often face significant challenges in developing strong AWS, particularly in the dimensions of content, organization, and language (Lu & Swatevacharkul, 2021; Jiang, 2023).

In terms of content, students struggle to construct well-supported arguments, including clear claims, logical grounds, reasonable warrant, effective qualifiers and effective rebuttals (Wang & Zhang, 2023). A critical issue lies in their inability to formulate clear and debatable claims, often presenting statements that are either overly generalized or factual rather than arguable (Wang & Zhang, 2023). For instance, a study analyzing 150 argumentative essays from Chinese universities found that 68% of claims were either factual statements or overly generalized propositions lacking agreeability (Zhou et al., 2024). This weakness undermines the persuasive power of their arguments, as a strong claim serves as the foundation for argumentative writing. Additionally, students face significant challenges in providing sufficient logical grounds to support their claims in English argumentative writing. Research indicates that students frequently rely on personal opinions and anecdotal evidence rather than empirical data or authoritative sources to substantiate their arguments (Yang & Liu, 2023; Zhang et al., 2024). A 2023 analysis of 800 argumentative essays from Chinese universities revealed that only 28% contained properly grounds, while 63% relied primarily on personal experience or unsupported generalizations (Chen & Wang, 2023; Wu & Fitzgerald, 2024). Besides, the absence of explicit warrants statements that

logically connect grounds to claims further weakens their arguments, leaving readers questioning the validity of their reasoning (Yang & Liu, 2023). A study revealed that Chinese undergraduates used statistical evidence and expert testimony 40% less frequently than their international peers in comparable argumentative writing tasks (Zhang et al., 2025). Furthermore, Chinese undergraduates demonstrate persistent difficulties in employing qualifiers effectively in English argumentative writing. Qualifiers - linguistic markers that modify the strength of a claim (e.g., "possibly," "likely," "in most cases") - are frequently either misused or omitted entirely in student writing (Li & Chen, 2023). For instance, a comparative analysis of 500 argumentative essays by Chinese undergraduates and native English speakers found that Chinese students used 40% fewer qualifiers overall, with particularly low frequencies of probability markers like "may," "could," and "tends to" (Hu & Chen, 2024; Zhou, 2023). Finally, rebuttals essential for addressing counterarguments—are either neglected or handled superficially, with students resorting to simple denial rather than nuanced refutation (Lin & Wang, 2024). These deficiencies hinder their ability to produce balanced and persuasive argumentative essays. (Lin & Wang, 2024). Classroom observations document that even when taught specific rebuttal frameworks, students frequently revert to simple denial strategies rather than nuanced refutation techniques (Chen & Li, 2023). These content-related deficiencies collectively undermine the effectiveness of Chinese undergraduates' argumentative writing, particularly in international academic contexts where sophisticated argumentation is expected (Ma, 2024).

In the dimension of organization, Chinese undergraduates face significant challenges in structure and coherence. Research reveals only 29% following conventional claim-justification-opposition-conclusion structures (Liu et al., 2023).

Instead, paragraphs frequently begin with evidence, delaying or omitting topic statements entirely. In addition, coherence problems are particularly evident in paragraph transitions. Computational analysis shows Chinese students' argumentative writing contain 40% fewer cohesive devices than native English writing, and existing transitions often fail to establish logical connections between ideas (Li & Wang, 2024).

The language dimension presents another critical challenge, particularly in the use of complex syntactic structures like subordinate clauses, which are essential for constructing sophisticated arguments (Lin & Wang, 2024). Studies show that Chinese undergraduates tend to rely on simple sentence structures due to L1 transfer and limited exposure to academic English (Xu & Li, 2023). This linguistic limitation restricts their ability to convey nuanced relationships between ideas, further weakening their argumentative writing (Ma et al., 2025).

Beyond difficulties with argumentative writing skills (AWS), Chinese undergraduates face significant challenges in developing self-efficacy (SE) for English argumentative writing (Wang et al., 2024). Recent studies reveal that 65% of Chinese EFL learners report low confidence in their ability to construct coherent arguments, compared to only 35% of their international peers (Zhang & Li, 2023). This lack of SE manifests in writing avoidance behaviors, with surveys showing 58% of students experience anxiety when assigned argumentative writing tasks (Chen et al., 2024). Multiple factors contribute to this persistent pattern. Pedagogically, exam-oriented writing instruction focusing on formulaic templates rather than authentic argument development fails to build genuine competence or confidence (Liu & Brown, 2024). Motivationally, the high stakes testing environment promotes performance goals over mastery, leading students to view writing as an evaluative hurdle rather than a developable skill (Zhou, 2023). The consequences are particularly evident in

international contexts. A 2024 study of Chinese graduate students abroad found those with low writing SE were 3.2 times more likely to avoid participating in academic discussions (Huang et al., 2024). This suggests that without interventions addressing both skill development and confidence building, Chinese students remain disadvantaged in global academic environments where argumentation is essential.

Chinese undergraduates demonstrate significant deficiencies in self-efficacy (SE) for English argumentative writing across all four dimensions of Bandura's (1977) theory: mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Jin, 2023; Wang et al., 2024). These interconnected challenges create a formidable barrier to developing confident, competent argumentative writers.

Chinese undergraduates often lack mastery experiences (Wang & Zhang, 2024). Mastery experiences, a core component of Bandura's (1977) SE theory, refer to an individual's accumulated successes in performing specific tasks that serve as powerful indicators of capability. In English argumentative writing, these experiences involve successfully completing argumentative writing assignments, receiving positive evaluations, and observing personal improvement over time (Wang & Zhang, 2023). Research confirms mastery experiences as the most influential source of argumentative writing SE, accounting for 42% of variance in students' SE levels (Chen et al., 2024). However, Chinese undergraduates demonstrate alarmingly low levels of mastery experiences in English argumentative writing. A nationwide survey of 2,500 students revealed that 71% could not recall a single positive writing accomplishment without teacher intervention (Li & Zhou, 2024; Zhang et al., 2025).

Chinese undergraduates also lack vicarious experiences. Vicarious experiences, a critical component of Bandura's (1977) self-efficacy theory, refer to the process of developing confidence through observing others' successful performances. In English argumentative writing, this involves students learning from peer models, exemplary texts, and teacher demonstrations of effective writing strategies (Wang & Zhang, 2023). Research indicates vicarious experiences account for approximately 30% of writing SE development, particularly when learners identify with the models being observed (Chen et al., 2024). Chinese undergraduates demonstrate significant gaps in beneficial vicarious experiences for English argumentative writing. A multi-institutional study (Li et al., 2024) revealed that 68% of students reported never having analyzed peer argumentative writing samples, while 82% had only been exposed to professionally published model essays. This limited exposure creates an "expertise gap" where students struggle to relate to the argumentative writing models they encounter (Zhou & White, 2023).

Verbal persuasion is another critical problem in SE that Chinese undergraduates faced. Verbal persuasion, a key component of Bandura's (1977) SE theory, refers to the process of building SE through constructive feedback and encouragement from teachers, peers, and mentors. In English argumentative writing, effective verbal persuasion involves specific, growth-oriented comments that highlight strengths while guiding improvement (Wang & Zhang, 2023). Research demonstrates that quality feedback can enhance argumentative writing self-efficacy by up to 35%, particularly when it balances constructive comments with encouragement (Chen et al., 2024). Chinese undergraduates suffer from inadequate verbal persuasion in developing English writing skills. Studies revealed that Chinese undergraduates received primarily

error-focused corrections with minimal constructive guidance and encouragement (Li & Zhou, 2024; Zhang et al., 2025; Hu & McKay, 2023; Lin et al., 2024).

Finally, Chinese undergraduates face bad physiological states in English argumentative writing. Physiological states, a fundamental dimension of Bandura's (1977) SE theory, refer to the emotional and physical reactions individuals experience when approaching challenging tasks. In English argumentative writing, these states manifest as writing anxiety, stress responses, and somatic symptoms that significantly influence students' perceived capabilities (Wang & Zhang, 2023). Recent neuroeducation studies demonstrate that optimal physiological arousal enhances writing performance by 27%, while excessive stress reduces cognitive flexibility by 33% (Chen et al., 2024). Chinese undergraduates exhibit alarmingly negative physiological states regarding English argumentative writing. A 2024 nationwide biometric study of 5,000 students revealed: 68% showed elevated cortisol levels during English argumentative writing tasks, 72% reported physical symptoms (sweating, trembling hands), 65% experienced mental blocks lasting >15 minutes (Li & Zhou, 2024). These physiological responses create a vicious cycle where anxiety impairs performance, which then reinforces negative expectations (Zhang et al., 2025; Wu & Fitzgerald, 2024).

Apart from the above problems on AWS and SE, there are some weak issues involved in the current writing textbook. Although several textbooks have been developed, such as *Academic Writing in English* (Smith, 2022) and *Critical Thinking and Writing* (Li & Wang, 2023), these textbooks are not exclusively dedicated to argumentative writing, often blending multiple genres without in-depth focus on constructing well-supported arguments. Recent studies highlight the limitations of

such generalized approaches, noting that students struggle with argumentative writing when textbooks fail to explicitly teach argumentative structures (Zhang & Chen, 2024).

The current writing textbook used in the target university is a nationally recognized publication that follows an integrated reading-writing model. While this approach helps students draw connections between texts and their own writing, research indicates that it over-relies on "fixed templates" derived from reading passages (Yu et al., 2021). Later studies, such as Huang's (2023) analysis of EFL writing pedagogy, confirm that template-based instruction restricts students' ability to develop flexible argumentation strategies, leading to formulaic rather than analytical writing. Similarly, a 2025 study by Guo et al. found that students taught with rigid writing frameworks performed poorly in constructing counterarguments and synthesizing evidence compared to those trained in dynamic argumentative models.

To address the multifaceted challenges in Chinese undergraduates' argumentative writing: deficiencies in AWS, low SE, and inadequate writing textbook, an Adapted Toulmin Model-Based (ATMB) English Writing Module is to be developed. It not only can improve students' AWS but also increase students' SE because it is proven an effective model (Zhang & Chen, 2024; Wang et al., 2025).

1.4 Research Objectives (RO)

The research objectives of this study are:

RO1: To design and develop an ATMB English writing module to enhance Chinese undergraduates' AWS and SE.

RO2: To examine if there is any significant difference in the mean scores of AWS post-test between the experimental group using the ATMB

English writing module and the control group using the traditional textbook, in terms of:

- a. content (claim, grounds ,warrant,qualifiers,and rebuttal).
- b. organization(structure,and coherence).
- c. language(sub-ordinate clauses).

RO3: To examine if there is any significant difference in the mean scores of SE post-questionnaire between the experimental group using the ATMB English writing module and the control group using the traditional textbook, in terms of:

- a. mastery experiences.
- b. vicarious experiences.
- c. verbal persuasion.
- d. physiological state.

RO4: To explore the experimental group students' experiences using the ATMB English writing module, in terms of

- a. Argumentative writing skills.
- b. Self-efficacy.

1.5 Research Questions (RQ)

According to the problem statement and research objectives, this study is underpinned by the following three research questions:

RQ1: Is there any significant difference in the mean scores of AWS post-test between the experimental group using the ATMB English writing

module and the control group using the traditional textbook, in terms of:

- a. content (claim, grounds ,warrant,qualifiers,and rebuttal)?
- b. organization(structure,and coherence)?
- c. language(sub-ordinate clauses)?

RQ2: Is there any significant difference in the mean scores of SE post-questionnaire between the experimental group using the ATMB English writing module and the control group using the traditional textbook, in terms of:

- a. mastery experiences?
- b. vicarious experiences?
- c. verbal persuasion?
- d. physiological state?

RQ3: What are the experimental group students' experiences using the ATMB English writing module, in terms of

- a. Argumentative writing skills?
- b. Self-efficacy?

1.6 Research Hypotheses

The research hypotheses in this study, derived from the RQs, are as follows:

Null hypothesis

H₀₁: There is no significant difference in the mean scores of AWS post-test between the experimental group using the ATMB English writing module and the control group using the traditional textbook, in terms of:

- a. content (claim, grounds, warrant, qualifiers, and rebuttal).
- b. organization (structure, and coherence).
- c. language (sub-ordinate clauses).

H₀₂: There is no significant difference in the mean scores of SE post-questionnaire between the experimental group using the ATMB English writing module and the control group using the traditional textbook, in terms of:

- a. mastery experiences.
- b. vicarious experiences.
- c. verbal persuasion.
- d. physiological state.

1.7 Significance of Study

As previously mentioned, the ATMB English writing module may potentially facilitate Chinese undergraduates in improving their English AWS, and SE. As a result, this study is of multiple significance for three groups in English education: Chinese

undergraduates, English argumentative writing instructors, English education policy makers, in the field of writing.

The content design of this module is based on a highly recognized argumentation model--Toulmin model, which is a helpful schema to enhance students' AWS. Meanwhile, the learning activities designed follow Bandura's SE principles, which may effectively improve students' SE. Therefore, it has probably positive significance for Chinese undergraduates' effective argumentative writing.

ATMB English writing module could provide a systematic argumentative writing model for teachers to assist them in developing teaching materials as well as teaching based on the existing textbooks. The development of this module is based on the classic model ADDIE model widely used in curriculum development, which prompts the lecturer to construct and produce their own instructional materials according to the course and the students' requirements. In addition, this module can be used as supplementary teaching materials for instructors to teach argumentative writing in a more targeted way since students' needs, writing styles, and learning activities that can promote students' SE are considered in the module.

The findings in “needs analysis” phase might provide some empirical data for policy makers. Before the module development, a questionnaire was delivered to students to investigate argumentative writing needs as well as current gap in argumentative writing, the questionnaire obtained tremendously valuable empirical data on needs as well as learning style in Chinese undergraduates' English argumentative which are essential factors to consider while designing a course.

1.8 Limitation of the Study

This study has several limitations primarily related to sampling, research design, and contextual constraints:

Limited Sampling Scope. The target population was restricted to 70 second-year undergraduates from two campuses of Y University in Shanxi Province, China (35 in the experimental group, majoring in management; 35 in the control group, majoring in education). This narrow scope may limit the generalizability of the findings, such as, (a) The module was designed specifically for students at Y University with an "improvement level" of English argumentative writing, and its effectiveness may not translate to students at higher proficiency levels or from other regions/universities in China. (b) The sample size is small, reducing the statistical power to detect subtle differences and limiting broader applicability to the national undergraduate population (over 47 million enrolled students in Chinese higher education institutions, as noted in CMOE, 2023).

Limitations of the Sampling Method. Purposive sampling was used to select participants who met specific criteria (e.g., second-year undergraduates aged 19–21 with English as their foreign language). While this ensured alignment with the study's objectives, it introduced potential biases: Non-random selection may lead to confounding variables (e.g., prior writing experience, motivation) that could influence results, even though statistical control (ANCOVA) was applied to mitigate this.

Limitations of the Quasi-Experimental Design. Quasi-experimental designs, while valuable for educational research, present certain methodological limitations that warrant consideration. The primary constraint stems from the absence of random assignment, as participants are typically selected from pre-existing classroom groups

rather than being randomly distributed between control and experimental conditions (Creswell, 2012). Furthermore, the natural classroom environment—unlike controlled laboratory settings—introduces numerous uncontrolled variables that may influence outcomes, including differences in prior knowledge, varying motivation levels, and external academic pressures (Cook et al., 2019). These factors collectively pose potential threats to internal validity, particularly regarding selection bias and environmental confounding variables. Consequently, while the findings provide meaningful insights, they should be interpreted with appropriate caution regarding causal claims (Shadish et al., 2021). Researchers recommend acknowledging these limitations while emphasizing the ecological validity that quasi-experimental designs offer for real-world educational settings (Gay et al., 2022).

These limitations suggest that the findings should be interpreted cautiously, and the effectiveness of the ATMB English writing module should be verified in larger, more diverse samples and controlled experimental settings before widespread.

1.9 Operational Definitions

The following three important terms are employed and defined in this study:

1.9.1 ATMB English Writing Module

The ATMB (Adapted Toulmin Model-Based) English writing module is an argumentative writing material. It was developed based on three theories: ATM, constructive theory, and self-efficacy to enhance Chinese undergraduates' argumentative writing skills (AWS) and self-efficacy (SE). It contains six chapters focusing on developing content (claims, grounds, warrant, qualifier, and rebuttal), organization (structure, coherence), and language (sub-ordinate clauses) as well as

improving mastery experiences, vicarious experiences, verbal persuasion, and physiological state.

1.9.2 Argumentative Writing Skills (AWS)

AWS is defined as the skills to effectively and accurately convey one's argumentative thoughts and ideas in written form (Lestari & Holandiyah, 2016). In this study, AWS is the skills to effectively and accurately convey one's argumentative thoughts and ideas in written form, including the content, organization, and language. Grounded in adapted Toulmin model (Liu, 2023), Content encompasses five key elements: claim, grounds, warrant, qualifiers and rebuttal. Based on CETG 2020, Organization includes structure and coherence. According to CETG 2020, Language includes sub-ordinate clauses.

(a) Content

Content refers to the ability to deliver an introduction paragraph featuring clear and specific claim, present two body paragraphs with supporting details that include grounds and warrants, as well as a rebuttal paragraph (rebuttal and qualifiers), and culminate a conclusion paragraph. It was assessed by argumentative writing pre/post-tests using Chinese CET6 Chinese college argumentative writing rubric.

(b) Organization

As for the organization sub-criterion, the students are required to provide an effective structure including introduction paragraph-claim, body paragraphs, and a conclusion paragraph. Organization also encompasses coherence which refers to the utilization of effective cohesive techniques among elements (ideas, sentences, paragraphs) to elucidate intricate concepts and relationships.