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Teaching critical thinking to Chinese students in English as a foreign language writing class: A review

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ABSTRACT

Critical thinking (CT) is important for English as a foreign language (EFL) writing. However, the EFL writings of Chinese students are usually negatively commented on in terms of CT in writing. The study reviewed relevant studies on how CT in writing was taught to Chinese EFL learners at the tertiary education level. It shows most EFL writing teachers adopted existing western CT definitions in a general knowledge background and mainly used teacher-centered assessment techniques to teach CT. Students' CT development was mostly assessed by self-designed CT assessments. Facing the globalization of CT teaching, the study thus updates the assessment techniques to meet the increasing needs of CT teaching in EFL writing in China. Relevant suggestions are also given to education practitioners.

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1. INTRODUCTION

As one of the 21st century skills, critical thinking (CT) is receiving far more attention than ever. Currently, CT is thus integrated into almost all disciplines in higher education [1], [2]. Among various CT teaching methods and approaches, writing is commonly used to teach CT in higher education as writing is viewed as the end product of CT in other disciplines [3] as it is the linguistic organization of thinking [4].

In practical teaching, students seem to do poorly in writing critically, especially non-English speakers from Asian countries. Shaheen [5] reported that Asian students were not critical thinkers in writing based on the interview with 16 British teachers from two United Kingdom universities. Similar findings were also reported in other studies [6], [7]. For quite a long time, the poor performance of CT was explained by different sociocultural contexts. Critical thinking, the hallmark of western or Euro-American thinking [8] or the western-born product [9], developed in western countries where individualism is valued. This is different from Asian countries, especially Singapore, Korea, and China. Influenced greatly by Confucianism, these Asian countries have been labeled as Confucian heritage culture (CHC) [10], [11]. In CHC countries, collectivism is often the core. For a long time, studies discuss the role of different cultures on CT learning [12]–[14] and produced mixed results. Nowadays, as CT teaching is becoming global, it is more important to find how CT is understood, taught, and assessed in different disciplines in different sociocultural contexts to provide reference to CT teaching in different contexts as there is global mobility of students [15].

Chinese English as a foreign language (EFL) students, from the origin country of Confucianism, have always been reported to lack CT in writing. In study by Wu [16], 14 mainland Chinese postgraduates

from British universities were interviewed about their experiences in British universities. One of the complaints often mentioned was CT in writing as they often received teachers' comments "be critical" and did not know how to respond appropriately. Such negative stereotypes of Chinese students have remained long. Instead of discussing CT learning in terms of culture, the current study reviews studies on how CT was defined, taught, and assessed by Chinese EFL writing teachers in practical tertiary education, to provide empirical evidence of CT teaching outside the western world and provide suggestions to make CT teaching more efficient in EFL writing as education factors are one of the important factors affecting CT abilities [17].

So far, current studies on Chinese English as a foreign language writing focus on grammar and vocabulary. Only a handful of studies investigate CT teaching in EFL writing. However, writing should not only be about grammar and mechanics or information development, it should provide a way for students to think critically [18], [19]. Chinese students, accounting for a major part of international students in the world [20], should not be neglected.

2. BACKGROUND INFORMATION ABOUT CRITICAL THINKING

Although CT has been highly valued, CT is "a notoriously fuzzy construct in education" [21]. Generally, studies tend to define CT as general knowledge, specific knowledge, and combined knowledge. For general knowledge, Facione [9], Paul and Elder [22] are rather prevalent. For the Delph report, a panel of CT experts was organized by the American Philosophical Association in the early 1990s. They worked together and achieved a consensus on CT definition which reveals that CT is composed of cognitive skills (i.e., interpretation, analysis, evaluation, inference, and self-regulation) and CT dispositions (i.e., being systematical, inquisitive, judicious, truth-seeking, confident in reasoning, open-minded, and analytical) [9]. This foundational definition still works as CT definition in many studies [23]–[25].

Based on the Delph report, Facione [9] developed the California Critical Thinking Skills Test (CCTST) to test CT cognitive skills and California Critical Thinking Dispositions Inventory (CCTDI) [26] to assess dispositions. For CCTST, test items are multiple choices set in general knowledge. For CCTDI, it is a five-point Likert scale. The two assessments are widely used as CT assessments. Different from the Delph report, Paul and Elder [22] proposed the intellectual standards (i.e., clarity, accuracy, relevance, logicalness, breadth, precision, significance, completeness, fairness, and depth) of CT. Instead of using multiple choices, Paul and Elder [27] think CT should be evaluated by what students said, wrote, and what feedback students provided. They designed the International Critical Thinking Reading and Wring Test (ICTRWT), which uses reading and writing tasks to assess CT.

The definitions and assessments mentioned do not involve much knowledge of specific disciplines. McPeck [28] stated that CT is shaped by "the particular problem area under consideration." This is further empirically supported by Moore [29] who investigated CT perceptions of academics working in history, philosophy, and cultural studies. At least seven distinct definitions (i.e., judgment, skepticism, simple originality, sensitive readings, rationality, an activist engagement with knowledge, and self-reflexivity) are reported. Thus, some studies tend to define CT with domain-specific knowledge.

Today, studies are more likely to view CT as a combination of both general knowledge and disciplinary knowledge. By reviewing previous studies, Thomas and Lok [30] provide a CT framework of three dimensions i.e., knowledge, skills, and disposition. Like the previous CT framework, CT requires cognitive skills, e.g., reasoning, evaluation, and self-regulation. In addition, CT needs to be internalized as affect, e.g., open-mindedness, and inquisitiveness. The major innovation of the model is that knowledge refers to both general information and specific content-based knowledge, which provides a theoretical base to analyze CT teaching in specific disciplines.

As definitions of CT differ, CT teaching strategies change. As reviewed, definitions of CT differ in knowledge. Thus, Ennis [31] proposed four CT instructions, namely the general approach, the immersion approach, the infusion approach, and the mixed approach. For the general approach, CT is taught exclusively in standalone courses with general knowledge. The infusion approach integrates CT skills into specific domains, i.e., students receive explicit CT training in a specific discipline while the immersion approach teaches CT implicitly in a specific discipline. The mixed approach is a combination of the general approach and immersion/infusion approach. Furthermore, the mixed approach is thought to be most effective in the relevant meta-analysis [32], [33], which makes studies tend to infuse CT in different disciplines. Then different teaching methods and strategies are proposed to be efficient in CT teaching and learning e.g., teambased learning [34] and problem-based learning [35]. Furthermore, some studies even try to find the best teaching practices in certain disciplines. For example, the use of rubrics is proposed to be best for CT teaching in information literacy [36].

Studies also notice the influence of sociocultural contexts on CT teaching and learning. Tan [37] implemented CT teaching in Singapore and found students are inclined to take part in CT teaching in essay

writing or small group discussions rather than in public speaking or debates. Thus, it is necessary to view CT teaching in certain disciplines under different sociocultural contexts to have a complete picture of CT teaching as CT teaching is becoming global.

3. RESULTS

For a long time, Chinese teachers were thought to teach students only knowledge without thinking as China was with high-stake exams and Chinese students were thus passive and obedient [38], [39]. This is partly true in writing as well. Presently, English as a foreign language teachers are more likely to adopt product-based teaching [40], [41], which views writing as a product, and teachers usually dominate the class to teach grammar and vocabulary knowledge. However, attention should also be given to limited studies which teach CT in EFL writing in China.

3.1. CT definitions in Chinese EFL writing

In line with the development of CT theories, most studies in China draw the existing western definitions in the general background knowledge [42]–[45]. Interestingly, there emerges a local CT definition [46]. However, only a limited of studies define CT with EFL writing knowledge [47]–[49]. For studies with existing CT definitions, Paul and Elder's definition is somehow dominant in Chinese EFL writing. They proposed the intellectual standards and designed reading and writing tasks to assess CT, making it easy to use in writing class. Thus, their definition dominated most studies [43], [45]. More than this, their definition is also adopted by the three existing textbooks [50]–[52] to explicitly teach CT in EFL writing in China. In addition, the local CT definition [46] largely built their CT understanding upon Paul and Elder [22].

As for the local CT definition by Wen *et al.* [46], it was designed exclusively for Chinese university students majoring in languages [46]. The 2-dimension model is more like a hybrid of Paul and Elder [22] and Facione. The dimension of CT skills, like the Delph report, includes cognitive skills and affect. The main difference between Facione was the deletion of some skills and affects. For example, cognitive skills in the model only involve analysis, inference, and evaluation. The standard of cognitive skills is like that of Paul and Elder [22] but only includes clarity and preciseness, relevance, logic, depth, and flexibility; it is also the same for affect. Affect in the model includes only inquisitiveness, open-mindedness, self-confidence, truth-seeking, and perseverance.

Wen et al. [46] claimed the deletion of some skills or standards in previous researches [9], [22] was because of their skills and standards were overlapping or tedious. Both cognitive skills and affect are under the government of the dimension of meta-critical thinking skills, which is the prominent difference between the researches [22]. Meta-thinking skills, at the top position, are to self-monitor and self-regulate critical thinking skills. This is different from western definitions as they do not emphasize the leading role of self-monitoring and self-regulating. This might indicate that thinking critically might not be autonomous and it needs intentional training and practice. However, such a model still does not involve specific knowledge. At the same time, with so many abstract and vague terms, it is not that easy even for teachers to understand and even put them into practical teaching. Thus, the localized CT definition of Wen et al. [46] does not promote CT teaching in EFL teaching over the nation.

Fortunately, emerging studies begin to define CT with both EFL writing and general knowledge. For example, Zhang [47] pointed out that the core of CT is closely related to EFL learners' understanding and use of language resources to analyze, evaluate and regulate communication activities. Zou [49] investigated three EFL teachers' understanding and teaching of CT in Chinese EFL writing class. The study summarized CT in EFL writing as a problem-solving process that requires rational, reflective, fair-minded thinking and linguistic resources to attain intellectual excellence.

3.2. CT teaching strategies and assessments in Chinese EFL writing

Argumentation is the genre in which CT is employed most as different genres serve different purposes [53]–[55]. Most studies in China followed this and taught CT in the genre of argumentation. As for teaching strategies, assessment techniques, a term used in Soufi and See [56], refer to teaching strategies or methos that rely on conferencing, feedback, and rubrics. They are used in a majority of studies [44], [45], [48], [57]–[60]. Li [59] used the action research design to find how to raise the reader's awareness in the review to develop CT among 24 sophomores of English majors. The study identified four types of feedback, i.e., teacher feedback, peer feedback, self-evaluation, and teacher-student writing conference enhanced students' CT development in the self-reports and reflection of participants.

Teacher-centered assessment is mostly used. Li and Liu [60] focused on teacher feedback on BA theses of five English majors. They designed a scale based on the CT framework in Wen *et al.* [46] and classified teachers' comments according to the scale. It shows teachers mainly produced feedback on writing techniques emphasizing clarity and logic and feedback on writing content about relevance and depth. They

also found students developed their CT gradually according to the self-developed CT scale with the provisions of teacher feedback. Instead of providing directive feedback, Chen [44] raised questions to 39 sophomores of English majors in and after class in addition to teacher feedback. She used self-developed rubrics based on the framework of Paul and Elder [22] and found teachers' questions enhanced the development of CT in these participants.

Different from relying on teacher feedback, Lu and Xie [45] explicitly taught 30 junior English major students by following four forms of paraphrasing, explicating, analyzing, and evaluating in ICTRWT while the control group just discussed, summarized, and analyzed the text followed by writing and peer revision. After the teaching, the experimental group scored significantly higher than the control group in the ICTRWT adopting the first four levels. In line with the development of technology, studies begin to use technology to help teach CT in EFL writing. For example, Zhang [47] used online resources to teach freshman English major students in writing and found students showed CT development in student-teacher interactions, peer comments, and reflections of students.

A similar result was obtained in Lin [61] who used online peer assessment with mind-mapping to teach CT. In the study, the experimental group involved 38 university students to have an online peer assessment and mind-mapping based approach while the control group with 19 counterparts had the face-to-face peer assessment and mind-mapping based approach. Participants in the experimental group followed an online assessment scale to finish peer feedback while the control group did peer review and received mainly rating feedback. By analyzing the reflection journals of participants, participants in the online group reported developing CT while the control group did not. However, there was no significant difference between these two groups in EFL writing. Xianwei, Asmawi, and Samuel [62] used Qzone (a Chinse social media similar to Facebook) for a group of business English majors to post comments on peers' writings and also found a significant improvement in CT development based on participants' self-report.

Remarkably, Liu *et al.* [63] used artificial intelligence to help develop CT in EFL writing. They involved one experiment group of 50 Chinese EFL learners and one control group of 53 counterparts. Both groups took the pre-test in EFL writing, self-efficacy, and self-regulation and received basic instruction on writing. Then both groups were required to write an essay after class and then received the automated writing feedback provided by the online platform. Then participants needed to revise their writings and upload them again. The major difference between these two groups was that participants in the experiment group were to receive AI support to summarize recommendations offered by the platform, ask questions when necessary, and reflect on how to improve their writing while the control group received no external help from the online platform. The results showed that the experimental group significantly did better than the control group in writing, self-regulation, and self-efficacy. Meanwhile, the experiment suffered less cognitive load than the control group. However, so far, studies with technology to enhance CT are till few among Chinese EFL learners. In terms of CT assessment, most studies used self-designed rubrics or self-reported qualitative data.

4. DISCUSSION

From the review, most selected studies adopted western CT definitions in general knowledge while they used self-designed rubrics or scales to evaluate CT in EFL learners' writings. In CT teaching, teacher-centered assessment techniques were frequently used. The findings of CT definitions in Chinese EFL writing are in line with Yuan *et al.* [64] who found that most EFL teachers used the existing western definitions in a review of CT teaching in the EFL context. This indicates that the knowledge of CT is still relatively new to EFL teachers in China. This is largely because CT teaching began late in China. CT education was not practiced in China until the middle 1990s when the public required to replace examination-oriented education with quality-oriented education and train thinking skills in China [65]. However, according to Dong [65], until 2013, there were only 50 out of more than thousands of universities in China opened up standalone CT courses i.e., teaching CT with general knowledge. Many of them were opened only to students who majored in philosophy and most teachers of these courses emphasized logic more than CT.

CT teaching is especially highlighted recently. The Chinese Government has been issuing policies to explicitly define CT in EFL teaching. For example, the national criteria of teaching quality for undergraduate English majors requires English departments should involve CT training, knowledge acquisition, and language skill training to develop undergraduate English majors' quality, intercultural communication competence, and CT [66]. For non-English majors, the guidelines on college English teaching emphasizes the goal of cultivating students to be able to use CT to analyze and evaluate information in listening, reading, speaking, and writing [67]. However, the "vague terms like inference and evaluate" [68] add dual difficulty for teachers to understand CT and teach CT. Most EFL teachers still could not provide a complete definition of CT. For example, a study found that the most frequently mentioned definition of CT was the disposition of CT (e.g., having diverse perspectives and being fair-minded) [69].

Without a clear understanding of CT, most EFL teachers thus are not able to teach CT in practical teaching. Thus, studies on how CT is taught and assessed in practical teaching are still limited. For the reviewed CT teaching methods, assessment techniques dominate. Soufi and See [56] conducted a systematic review of CT teaching to EFL learners in universities to identify the most efficient teaching approaches. They found the explicit teaching of CT in general CT was most effective while the assessment techniques were least effective in terms of CT development. However, studies show assessment techniques dominate CT teaching in EFL writing in Chinese universities with positive teaching efficiency.

One important explanation is that assessment techniques fit the features of the sociocultural context. As CT is foreign to EFL learners, assessment techniques could thus best remind participants of the importance of CT in China with the high-stake examination. Chinese students are always thought to be examoriented [70]. Instead of viewing exam-oriented context as an impediment to CT teaching [71], explicitly integrating CT teaching in the assessments motivates EFL learners to work harder on CT.

Equally important is the consideration of achieving the teaching goals of EFL writing. As EFL writing is a difficult task, revision plays an important role in writing development. Some studies [72]–[74] even think the ability to revise is what differs between invoice and expert writers. China's Standards of English Language Ability even highlights CT explicitly in revision with the statement "Can revise texts in accordance with writing purpose, readership, or other requirements, demonstrating depth of critical thinking and logic" [75]. Thus, feedback to writings is crucial. Assessment techniques could work best to teach CT in EFL writing through teacher-student interaction [76]. Such findings also share some similarities with CT teaching in Anglo universities. Bellaera *et al.* [77] investigated the preferred CT teaching activities used by 176 UK and US university teaching staff of humanities and social sciences disciplines and found teacher-led discussion, pupil-led discussion, feedback, and question and answer rank the top four CT teaching activities.

However, assessment techniques in the current study are more teacher-centered, which could not be popularized in practical teaching as most Chinese EFL teachers are facing a large-class size of EFL learners and a heavy working load [78]. So far, most studies with CT teaching in China were limited to English majors in a small class with a relatively high English proficiency. English majors in a small class in a standalone writing class provide teacher-centered assessment techniques possible. For example, Li [59] agrees that this teaching condition provides teachers to have sufficient time and energy to organize teaching activities and provide feedback. However, in Chinese universities, more EFL learners do not major in English and do not have stand-alone writing courses either. For these students, their major might be science, physics, and other disciplines except English. In the era where English is still the dominant language, they also need to write critically in English to publish papers, do international communication, trade. Due to a much larger number than that of English majors, non-English majors are usually in a class of more than 50 students in an English class. What is worse, to develop their disciplinary ability, most universities have reduced the course time of English for non-English majors.

Compared with English majors who have standalone writing courses once a week lasting 16 weeks each semester for the entire university, most non-English majors could only have limited or even no writing training in compulsory courses like comprehensive English in which listening, reading, writing, speaking, translation are all generally taught in the first two years of university. Therefore, in Heng [7], undergraduate participants who did not major in English even reported they seldom write argumentation, and they often wrote in narration or description which requires less CT [23]. This could also account for the lack of CT teaching in Chinese EFL learners. They just do not know what is CT in EFL writing, let alone how to write critically. Moreover, low English proficiency is used as an excuse for teachers not to teach CT in EFL classes in China [69]. Thus, CT is ignored in Chinese EFL writing in most universities [79].

Nowadays, teaching only language knowledge in the ever-changing world is not enough [77]. EFL writing, as well as English proficiency, should not only be limited to linguistic knowledge in form of practice of blank fillings or grammar exercises but practices with higher-order CT [63], [80]. CT, as one of the high-order thinking skills, is thought to be a tool for writing [81]. The close relationship between CT and writing should not be isolated in EFL writing, which requires more well-prepared EFL writing teachers to use more appropriate teaching strategies to facilitate EFL learners to achieve this goal.

In addition, CT is put as one of the key competencies to accomplish in the newest National English Curriculum [82] for middle and high school. There are already studies concerning CT teaching in EFL writing in high school [83] and even in elementary school [84], [85]. Under this background, the intervening effect due to low English proficiency should not be maximized or even used as an excuse to ignore CT teaching [86], [87]. Although assessment techniques could help Chinese students improve their CT in EFL writing, however, teacher-centered assessment techniques could not meet the diversified and instant needs of such a large number of EFL learners with different levels of English proficiency. Thus, the updated assessment techniques framework as presented in Figure 1 based on the current review and issues is proposed to support future CT teaching in EFL writing.

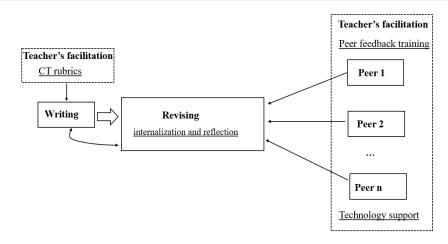


Figure 1. Framework of using assessment techniques to teach CT in EFL writing

The major differences between the old assessment techniques and the updated ones lie in the use of technology, peer feedback, and the changing teacher's role. Firstly, using technology to facilitate CT teaching is a trend. Sönmez [88] reviewed studies using technology to develop CT from 2010 to 2020, 30% of studies employed the technology to develop CT in language education, which represented the largest portion. Narrowing the scope to information communication technology (ICT) used in the second and foreign language teaching context, Lu and Xie [89] found that 66% of studies conducted at the university level were using ICT to teach CT in a systematic review. Among their findings, ICT was mostly used in China. In China, there appear some localized technological tools to facilitate CT teaching in peer feedback e.g., Rain classroom [90], Goodpoint writing system [91]. They are available to offer online and offline instruction, discussion forums, and proving extra materials. On the other hand, though still limited in its efficiency in developing CT [92], peer feedback has already been reported to be effective in developing CT in engineering [93], health [94], education [95], and management [96]. Facing a large number of EFL learners of different levels of English proficiency, peer feedback could make full use of the scaffolding from peers.

In the Chinese EFL context, EFL teachers are hesitant to use peer feedback in writing [41] mainly due to the uncertainty of learners' ability to evaluate the writings [97], [98]. Thus, specific training on how to provide CT-oriented comments is thus necessary. Thus, instead of providing comments on CT, EFL teachers in this framework concentrate on facilitating students to provide CT-oriented comments. The priority goes to providing students with explicitly CT rubrics. The use of rubrics is reported to be effective in promoting CT [99], [100]. Hence, teachers have certain competence to design their own writing assessment with CT. In addition, studies have already proposed rubrics with validity and reliability to assess CT in writing. For example, Stapleton and Wu [101] based on 125 argumentative writings of higher school students in Hong Kong, propose analytic scoring rubric for argumentative writing. Dong [102] proposed a self-designed rating scale of CT in EFL writing with strong tests of reliability and validity. Thus, teachers could use such rubrics to decide the teaching focus and organize Chinese EFL learners to write with those rubrics.

At the same time, the teacher should train students how to produce CT comments of high quality. Studies have proposed a variety of training activities e.g. teacher modeling [103], guidelines [104]. It should be noticed such facilitation might not be only several times or many times. Instead, it should depend on students' needs and it could be both offline individualized meetings or online training courses. In this way, students are better aware how to provide qualified comments. Furthermore, students could thus internalize CT through providing and receiving CT-oriented peer feedback.

Thus, the updated framework could still make use of the benefits brought by assessment techniques. Furthermore, by providing facilitation from teachers and technology, EFL learners could analyze the writing tasks with CT to finish writing, evaluate others' writing to enhance understanding of CT, reflect on how to write with CT based on peer feedback, and make a revision with CT. Also, teachers are shifting their roles from knowledge transmitters to organizers and facilitators, creating a more democratic atmosphere in class between teachers and students [105]. In general, the updated assessment techniques depend on teachers' professional CT understanding in EFL writing and make use of scaffolding from peers in a large number, to internalize writing with CT for students with the facilitation of teachers and technology in a more cooperative learning environment.

5. CONCLUSION

This review discusses how critical thinking was taught in practical English as a foreign language writing class. Generally, CT teaching in EFL writing is developing with its distinctive features. Though the majority of studies still followed the western definitions in the general background, emerging studies show a tendency to define CT with EFL writing knowledge. Meanwhile, Chinese teachers still preferred teacher-centered assessment techniques, which reflects the influence of Confucian heritage culture. Instead of following standard tests set in general knowledge like California Critical Thinking Dispositions Inventory to test CT, studies use more domain-specific assessments. As most of the studies were conducted in English majors, most Chinese EFL learners do not receive system training on how to write with CT. Most of them lack the criteria for writing with CT. To popularize CT in EFL writing in China, based on assessment techniques, the study proposes an updated framework to facilitate CT learning from multiple sources i.e., teachers, peers, and technology. Through such facilitation, students could write with CT on their own.

For now, Chinese policymakers have issued policies to promote critical thinking teaching in EFL teaching, and they still need to organize teacher training programs to develop teachers' understanding of CT, especially how to integrate CT with EFL knowledge. At the same time, CT criteria should be made explicitly in the rubrics of English tests. Meanwhile, policymakers should monitor and continue to promote the implementation of student-centered and collaborative learning in the pedagogy reform with education technology to develop CT. Such reform has already begun recently but requires sustainable development.

REFERENCES

- [1] A. Kwan, "Constructive alignment for deep learning: Very short, argument-based laboratory reports," *International Journal of Innovation in Science and Mathematics Education*, vol. 23, no. 2, pp. 46–58, 2015.
- [2] J. B. Richards, M. M. Hayes, and R. M. Schwartzstein, "Teaching clinical reasoning and critical thinking: From cognitive theory to practical application," *Chest*, vol. 158, no. 4, pp. 1617–1628, 2020, doi: 10.1016/j.chest.2020.05.525.
- [3] R. H. Ennis, "Critical thinking across the curriculum: A vision," Topoi, vol. 37, no. 1, pp. 165–184, 2018, doi: 10.1007/s11245-016-9401-4.
- [4] J. P. Lantolf, "Second language learning as a mediated process," *Language Teaching*, vol. 33, no. 2, pp. 79–96, 2000, doi: 10.1017/S0261444800015329.
- [5] N. Shaheen, "International students' critical thinking-related problem areas: UK university teachers' perspectives," *Journal of Research in International Education*, vol. 15, no. 1, pp. 18–31, 2016, doi: 10.1177/1475240916635895.
- [6] K. Durkin, "Adapting to Western Norms of Critical Argumentation and Debate," in *Researching Chinese learners: Skills, perceptions, and intercultural adaptations*, L. Jin and M. Cortazzi, Eds. London: Palgrave Macmillan, 2011, pp. 274–291.
- [7] T. T. Heng, "Different is not deficient: contradicting stereotypes of Chinese international students in US higher education," Studies in Higher Education, vol. 43, no. 1, pp. 22–36, 2018, doi: 10.1080/03075079.2016.1152466.
- [8] G. Sigurðsson, "Transformative Critique: What Confucianism Can Contribute to Contemporary Education," Studies in Philosophy and Education, vol. 36, no. 2, pp. 131–146, 2017, doi: 10.1007/s11217-015-9502-3.
- [9] P. Facione, Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction (The Delphi Report). Millbrae, CA: California Academic Press, 1990.
- [10] J. Wang and J. Lin, "Traditional Chinese views on education as perceived by international student attitudes and understandings," Journal of Studies in International Education, vol. 23, no. 2, pp. 195–216, 2019, doi: 10.1177/1028315318797356.
- [11] S. O'Dwyer, "Deflating the 'Confucian Heritage Culture' thesis in intercultural and academic English education," *Language*, Culture and Curriculum, vol. 30, no. 2, pp. 198–211, 2017, doi: 10.1080/07908318.2016.1259321.
- [12] D. Atkinson, "A critical approach to critical thinking in TESOL," TESOL Quarterly, vol. 31, no. 1, 1997, doi: 10.2307/3587975.
- [13] J. Tian and G. D. Low, "Critical thinking and Chinese university students: A review of the evidence," *Language, Culture and Curriculum*, vol. 24, no. 1, pp. 61–76, 2011, doi: 10.1080/07908318.2010.546400.
- [14] E. Manalo, T. Kusumi, M. Koyasu, Y. Michita, and Y. Tanaka, "To what extent do culture-related factors influence university students' critical thinking use?" *Thinking Skills and Creativity*, vol. 10, pp. 121–132, 2013, doi: 10.1016/j.tsc.2013.08.003.
- [15] X. Song, "'Critical thinking' and pedagogical implications for higher education," *East Asia*, vol. 33, no. 1, pp. 25–40, 2016, doi: 10.1007/s12140-015-9250-6.
- [16] Q. Wu, "Re-examining the 'Chinese learner': a case study of mainland Chinese students' learning experiences at British Universities," *Higher Education*, vol. 70, no. 4, pp. 753–766, 2015, doi: 10.1007/s10734-015-9865-y.
- [17] N. Mahapoonyanont, "The causal model of some factors affecting critical thinking abilities," *Procedia Social and Behavioral Sciences*, vol. 46, pp. 146–150, 2012, doi: 10.1016/j.sbspro.2012.05.084.
- [18] H. R. Leggette, T. A. Rutherford, and D. W. Dunsford, "A model to augment critical thinking and Create knowledge through writing in the agricultural social sciences," NACTA Journal, vol. 59, no. 3, pp. 245–252, 2015.
- [19] J. Novakovich, "Fostering critical thinking and reflection through blog-mediated peer feedback," *Journal of Computer Assisted Learning*, vol. 32, no. 1, pp. 16–30, 2016, doi: 10.1111/jcal.12114.
- [20] UNESCO, "Global Flow of Tertiary-Level Students," 2019. [Online]. Available: http://uis.unesco.org/en/uis-student-flow (accessed: Jan. 15, 2023).
- [21] R. Yuan and P. Stapleton, "Student teachers' perceptions of critical thinking and its teaching," *ELT Journal*, vol. 74, no. 1, pp. 40–48, 2020, doi: 10.1093/ELT/CCZ044.
- [22] R. Paul and L. Elder, Critical thinking: learn the tools the best thinkers use. New Jersey: Pearson Prentice Hall, 2006.
- [23] E. Pollarolo, I. Størksen, T. H. Skarstein, and N. Kucirkova, "Children's critical thinking skills: perceptions of Norwegian early childhood educators," European Early Childhood Education Research Journal, vol. 31, no. 2, pp. 259–271, 2022, doi: 10.1080/1350293x.2022.2081349.
- [24] J. Zhang and B. Chen, "The effect of cooperative learning on critical thinking of nursing students in clinical practicum: A quasi-experimental study," *Journal of Professional Nursing*, vol. 37, no. 1, pp. 177–183, 2021, doi: 10.1016/j.profnurs.2020.05.008.

[25] K. J. Plummer, M. Kebritchi, H. M. Leary, and D. M. Halverson, "Enhancing critical thinking skills through decision-based learning," *Innovative Higher Education*, vol. 47, no. 4, pp. 711–734, 2022, doi: 10.1007/s10755-022-09595-9.

- [26] P. A. Facione, C. A. Giancarlo, N. C. Facione, and J. Gainen, "The disposition toward critical thinking," *Journal of General Education*, vol. 44, no. 2, pp. 1–25, 1995, doi: 10.5840/inquiryctnews199210292.
- [27] R. Paul and L. Elder, *The miniature guide to critical thinking concepts and tools*. Dillon Beach, CA: The Foundation for Critical Thinking, 2008.
- [28] J. McPeck, Critical Thinking and Education. New York: St. Martin's Press, 1981.
- [29] T. Moore, "Critical thinking: Seven definitions in search of a concept," Studies in Higher Education, vol. 38, no. 4, pp. 506–522, 2013, doi: 10.1080/03075079.2011.586995.
- [30] K. Thomas and B. Lok, "Teaching critical thinking: An operational framework," in *The Palgrave handbook of critical thinking in higher education*, New York: Palgrave Macmillan, 2015, pp. 93–105.
- [31] R. H. Ennis, "Critical thinking and subject specificity: Clarification and needed research," *Educational Researcher*, vol. 18, no. 3, pp. 4–10, 1989, doi: 10.3102/0013189X018003004.
- [32] P. C. Abrami et al., "Instructional interventions affecting critical thinking skills and dispositions: A stage 1 Meta-Analysis," Review of Educational Research, vol. 78, no. 4, pp. 1102–1134, 2008, doi: 10.3102/0034654308326084.
- [33] C. R. Huber and N. R. Kuncel, "Does college teach critical thinking? A meta-analysis," Review of Educational Research, vol. 86, no. 2, pp. 431–468, 2016, doi: 10.3102/0034654315605917.
- [34] M. Espey, "Enhancing critical thinking using team-based learning," Higher Education Research and Development, vol. 37, no. 1, pp. 15–29, 2018, doi: 10.1080/07294360.2017.1344196.
- [35] S. A. Seibert, "Problem-based learning: A strategy to foster generation Z's critical thinking and perseverance," *Teaching and Learning in Nursing*, vol. 16, no. 1, pp. 85–88, 2021, doi: 10.1016/j.teln.2020.09.002.
- [36] M. Goodsett, "Best practices for teaching and assessing critical thinking in information literacy online learning objects," *Journal of Academic Librarianship*, vol. 46, no. 5, p. 102163, 2020, doi: 10.1016/j.acalib.2020.102163.
- [37] C. Tan, "Teaching critical thinking: Cultural challenges and strategies in Singapore," British Educational Research Journal, vol. 43, no. 5, pp. 988–1002, Oct. 2017, doi: 10.1002/berj.3295.
- [38] L. Li and R. Wegerif, "What does it mean to teach thinking in China? Challenging and developing notions of 'Confucian education," *Thinking Skills and Creativity*, vol. 11, pp. 22–32, 2014, doi: 10.1016/j.tsc.2013.09.003.
- [39] L. Li, "Integrating thinking skills in foreign language learning: What can we learn from teachers' perspectives?" Thinking Skills and Creativity, vol. 22, pp. 273–288, 2016, doi: 10.1016/j.tsc.2016.09.008.
- [40] S. Yu, L. Jiang, and N. Zhou, "Investigating what feedback practices contribute to students' writing motivation and engagement in Chinese EFL context: A large scale study," Assessing Writing, vol. 44, p. 100451, 2020, doi: 10.1016/j.asw.2020.100451.
- [41] S. Yu, N. Zhou, Y. Zheng, L. Zhang, H. Cao, and X. Li, "Evaluating student motivation and engagement in the Chinese EFL writing context," *Studies in Educational Evaluation*, vol. 62, pp. 129–141, 2019, doi: 10.1016/j.stueduc.2019.06.002.
- [42] J. Li, "Literary course paper writing and critical thinking: a case study of the course papers from 'western literary theory and criticism," Foreign Language Learning Theory and Practice, no. 1, p. 915, 2019.
- [43] J. Yu, "An integrated teaching approach to English writing and critical thinking skills development," *Foreign Language World*, no. 5, pp. 20–28, 2014.
- [44] Y. Chen, "Investigation into students' critical thinking development through teachers' questions," *Foreign Language and Their Teaching*, no. 2, pp. 87–96, 2016.
- [45] D. Lu and Y. Xie, "The effects of a critical thinking oriented instructional pattern in a tertiary EFL argumentative writing course," Higher Education Research and Development, vol. 38, no. 5, pp. 969–984, 2019, doi: 10.1080/07294360.2019.1607830.
- [46] Q. Wen, J. Wang, C. Zhao, Y. Liu, and H. Wang, "Theoretical framework of critical thinking assessments for Chinese EFL learners of foreign language majors in Chinese universities," Foreign Language World, no. 1, pp. 37–43, 2009.
- [47] X. Zhang, "Developing college EFL writers' critical thinking skills through online resources: A case study," SAGE Open, vol. 8, no. 4, 2018, doi: 10.1177/2158244018820386.
- [48] D. Yanning, "Teaching and assessing critical thinking in second language writing: An infusion approach," Chinese Journal of Applied Linguistics, vol. 40, no. 4, pp. 431–451, 2017, doi: 10.1515/cjal-2017-0025.
- [49] M. Zou, "Understanding the Integration of Critical Thinking in EFL Writing Instruction: A Naturalistic Inquiry," Doctoral Dissertation, The Chinese University of Hong Kong, 2019.
- [50] Z. Zhang, English composition: from creative thinking to critical thinking. Beijing: Foreign Language Teaching and Research Press, 2011.
- [51] Z. Zhang, College English Composition: from Creative Thinking to Critical Thinking. Beijing: Foreign Language Teaching and Research Press, 2014.
- [52] Y. Sun and L. Zhang, English and thinking. Foreign Language Teaching and Research Press, 2016.
- [53] P. Deane, N. Odendahl, T. Quinlan, M. Fowles, C. Welsh, and J. Bivens-Tatum, "Cognitive models of writing: writing proficiency as a complex integrated skill," ETS Research Report Series, vol. 2008, no. 2, pp. i-36, 2008, doi: 10.1002/j.2333-8504.2008 tb02141 x
- [54] H. Alnofaie, "A framework for implementing critical thinking as a language pedagogy in EFL preparatory programmes," Thinking Skills and Creativity, vol. 10, pp. 154–158, 2013, doi: 10.1016/j.tsc.2013.09.002.
- [55] S. Latifi, O. Noroozi, J. Hatami, and H. J. A. Biemans, "How does online peer feedback improve argumentative essay writing and learning?" *Innovations in Education and Teaching International*, vol. 58, no. 2, pp. 195–206, 2021, doi: 10.1080/14703297.2019.1687005.
- [56] N. El Soufi and B. H. See, "Does explicit teaching of critical thinking improve critical thinking skills of English language learners in higher education? A critical review of causal evidence," *Studies in Educational Evaluation*, vol. 60, pp. 140–162, 2019, doi: 10.1016/j.stueduc.2018.12.006.
- [57] X. Jin, "The teaching approach of cultivating the critical thinking ability in college English argumentative composition," *Journal of Jiangxi Normal University (Philosophy and Social Sciences)*, vol. 51, no. 2, pp. 134–139, 2018.
- [58] Y. Su, "A comparative study on explicit and implicit teaching of critical thinking in Exposition and argumentation," *Journal of Beijing Institute of Technology*, vol. 13, no. 2, pp. 150–156, 2011.
- [59] L. Li, "Designing writing assessments for English majors: Critical thinking oriented," Foreign Lang. Their Teach, no. 256, pp. 31–35, 2011.
- [60] L. Li and X. Liu, "Teacher feedback and critical thinking: a case study of thesis of English majors," Foreign Language World, vol. 6, pp. 20–27, 2018.

- C. J. Lin, "An online peer assessment approach to supporting mind-mapping flipped learning activities for college English writing courses," *Journal of Computers in Education*, vol. 6, no. 3, pp. 385–415, 2019, doi: 10.1007/s40692-019-00144-6.
- G. Xianwei, A. Asmawi, and M. Samuel, "Critical peer feedback for business English writing through Qzone blogs: A mechanism among Chinese undergraduates," GEMA Online Journal of Language Studies, vol. 17, no. 1, pp. 39–54, 2017, doi: [62] 10.17576/gema-2017-1701-03.
- C. Liu, J. Hou, Y. F. Tu, Y. Wang, and G. J. Hwang, "Incorporating a reflective thinking promoting mechanism into artificial intelligence-supported English writing environments," Interactive Learning Environments, pp. 1-19, 2021, doi: 10.1080/10494820.2021.2012812.
- R. Yuan, W. Liao, Z. Wang, J. Kong, and Y. Zhang, "How do English-as-a-foreign-language (EFL) teachers perceive and engage [64] with critical thinking: A systematic review from 2010 to 2020," Thinking Skills and Creativity, vol. 43, p. 101002, 2022, doi:
- [65] Y. Dong, Critical thinking education with Chinese characteristics. New York: The Palgrave. Palgrave Macmillan, 2015.
- Chinese Ministry of Education, National standard for assessing the quality of teaching in undergraduate programs. 2018.
- Chinese Ministry of Education, The guidelines on college English teaching. 2020.
- R. Quintana and R. Correnti, "The right to argue: teaching and assessing everyday argumentation skills," Journal of Further and Higher Education, vol. 43, no. 8, pp. 1133–1151, 2019, doi: 10.1080/0309877X.2018.1450967.
- [69] H. Zhang, R. Yuan, and X. He, "Investigating University EFL teachers' perceptions of critical thinking and its teaching: Voices from China," Asia-Pacific Education Researcher, vol. 29, no. 5, pp. 483-493, 2020, doi: 10.1007/s40299-020-00500-6.
- C. Tan, "Conceptions and practices of critical thinking in Chinese Schools: an example from Shanghai," Educational Studies -AESA, vol. 56, no. 4, pp. 331–346, 2020, doi: 10.1080/00131946.2020.1757446.
- C. Y. Dwee, E. M. Anthony, B. M. Salleh, R. Kamarulzaman, and Z. A. Kadir, "Creating thinking classrooms: perceptions and teaching practices of ESP practitioners," Procedia - Social and Behavioral Sciences, vol. 232, pp. 631-639, 2016, doi: 10.1016/j.sbspro.2016.10.087.
- P. López, M. Torrance, G. Rijlaarsdam, and R. Fidalgo, "Evaluating effects of different forms of revision instruction in upperprimary students," Reading and Writing, vol. 34, no. 7, pp. 1741-1767, 2021, doi: 10.1007/s11145-021-10156-3.
- J. Chen and L. J. Zhang, "Assessing student-writers' self-efficacy beliefs about text revision in EFL writing," Assessing Writing, vol. 40, pp. 27-41, 2019, doi: 10.1016/j.asw.2019.03.002.
- D. McKeown, E. FitzPatrick, R. Ennis, and A. Potter, "Writing is revising: Improving student persuasive writing through individualized asynchronous audio feedback," Education and Treatment of Children, vol. 43, no. 1, pp. 35-48, 2020, doi: 10.1007/s43494-020-00004-4.
- Chinese Ministry of Education and National Language Commission, "China's Standards of English Language Ability," 2018. [Online]. Available: https://chaxun.neea.edu.cn/res/Home/1908/0c96023675649ac8775ff3422f91a91d.pdf.
- T. Moore, "On the Teaching of Critical Thinking in English for Academic Purposes," in Essential Competencies for Englishmedium University Teaching, R. Breeze and C. S. Guinda, Eds. Switzerland: Springer International Publishing, 2017.

 L. Bellaera, Y. Weinstein-Jones, S. Ilie, and S. T. Baker, "Critical thinking in practice: The priorities and practices of instructors
- teaching in higher education," Thinking Skills and Creativity, vol. 41, p. 100856, 2021, doi: 10.1016/j.tsc.2021.100856.
- Q. Chen, J. Zhang, and L. Li, "Problematising formative assessment in an undeveloped region of China: voices from practitioners," Educational Assessment, Evaluation and Accountability, vol. 33, no. 4, pp. 649-673, 2021, doi: 10.1007/s11092-021-09369-5.
- Z. Li, J. Gu, and C. Qian, "The influence of critical thinking and inter-disciplinary learning on English writing competence," Journal of Dalian University of Technology (Social Science), vol. 40, no. 5, pp. 121–128, 2019.
- Y. Sun, "Liberal English education," Foreign Language Teaching and Research, vol. 49, no. 6, pp. 859-870, 2017.
- S. Ebadi and M. Rahimi, "An exploration into the impact of WebQuest-based classroom on EFL learners' critical thinking and academic writing skills: a mixed-methods study," Computer Assisted Language Learning, vol. 31, no. 5-6, pp. 617-651, 2018, doi: 10.1080/09588221.2018.1449757.
- Ministry of Education of the People's Republic of China, "National English Curriculum," (in Chinese), 2022. [Online]. [82] Available: http://www.moe.gov.cn/srcsite/A26/s8001/202204/W020220420582349487953.pdf.
- P. S. Tsai, "Research on information searching strategies in high school students' quality of argumentative essay writing," Interactive Learning Environments, pp. 1–19, 2022, doi: 10.1080/10494820.2022.2046108.
- C. Y. Fan and G. D. Chen, "A scaffolding tool to assist learners in argumentative writing," Computer Assisted Language Learning, vol. 34, no. 1–2, pp. 159–183, 2021, doi: 10.1080/09588221.2019.1660685.
- W. Liang and D. Fung, "Fostering critical thinking in English-as-a-second-language classrooms: Challenges and opportunities," [85] Thinking Skills and Creativity, vol. 39, p. 100769, 2021, doi: 10.1016/j.tsc.2020.100769.
- E. Manalo and C. Sheppard, "How might language affect critical thinking performance?" Thinking Skills and Creativity, vol. 21, pp. 41–49, 2016, doi: 10.1016/j.tsc.2016.05.005.
- C. B. Floyd, "Critical thinking in a second language," Higher Education Research and Development, vol. 30, no. 3, pp. 289-302, 2011, doi: 10.1080/07294360.2010.501076.
- E. Sönmez, E. Kabataş Memiş, and Z. Yerlikaya, "The effect of practices based on argumentation-based inquiry approach on teacher candidates' Educational Studies, vol. 47, no. 1, pp. 59-83, critical thinking," 10.1080/03055698.2019.1654364.
- D. Lu and Y. N. Xie, "Critical thinking cultivation in TESOL with ICT tools: a systematic review," Computer Assisted Language Learning, pp. 1–21, 2022, doi: 10.1080/09588221.2022.2033788.
- J. Chen and J. Hu, "Enhancing L2 learners' critical thinking skills through a connectivism-based intelligent learning system," International Journal of English Linguistics, vol. 8, no. 6, p. 12, 2018, doi: 10.5539/ijel.v8n6p12.
- G. Lv, "Application of good point online system in English writing teaching," Modern Educational Technology, vol. 22, no. 4, pp. 79–82, 2012.
- E. van Popta, M. Kral, G. Camp, R. L. Martens, and P. R. J. Simons, "Exploring the value of peer feedback in online learning for the provider," Educational Research Review, vol. 20, pp. 24-34, 2017, doi: 10.1016/j.edurev.2016.10.003.
- C. Dominguez et al., "Adding value to the learning process by online peer review activities: towards the elaboration of a methodology to promote critical thinking in future engineers," vol. 40, no. 5, pp. 573-591, 2015, doi: 10.1080/03043797.2014.987649.
- R. M. Filius, R. A. M. de Kleijn, S. G. Uijl, F. J. Prins, H. V. M. van Rijen, and D. E. Grobbee, "Strengthening dialogic peer feedback aiming for deep learning in SPOCs," Computers and Education, vol. 125, pp. 86-100, 2018, doi: 10.1016/j.compedu.2018.06.004.

[95] Y. Zhan, "What matters in design? Cultivating undergraduates' critical thinking through online peer assessment in a Confucian heritage context," Assessment and Evaluation in Higher Education, vol. 46, no. 4, pp. 615–630, 2020, doi: 10.1080/02602938.2020.1804826.

- [96] J. C. Richardson, P. Ertmer, J. Lehman, and T. Newby, "Using Peer Feedback in Online Discussions to Improve Critical Thinking," Paper presented at the Proceedings of the Annual Meeting of the Association for Educational Communications and Technology, Anaheim, California, 2007.
- [97] H. Zhao, "Exploring tertiary English as a foreign language writing tutors' perceptions of the appropriateness of peer assessment for writing," *Assessment and Evaluation in Higher Education*, vol. 43, no. 7, pp. 1133–1145, 2018, doi: 10.1080/02602938.2018.1434610.
- [98] F. Geng, S. Yu, and J. Wang, "The influence of peer feedback on students' critical thinking abilities in argumentative writing," Foreign Language World, no. 3, pp. 37–45, 2021.
- [99] T. Camarata and T. A. Slieman, "Improving student feedback quality: A simple model using peer review and feedback rubrics," Journal of Medical Education and Curricular Development, vol. 7, 2020, doi: 10.1177/2382120520936604.
- [100] G. Reynders, J. Lantz, S. M. Ruder, C. L. Stanford, and R. S. Cole, "Rubrics to assess critical thinking and information processing in undergraduate STEM courses," *International Journal of STEM Education*, vol. 7, no. 1, 2020, doi: 10.1186/s40594-020-00208-5
- [101] P. Stapleton and Y. (Amy) Wu, "Assessing the quality of arguments in students' persuasive writing: A case study analyzing the relationship between surface structure and substance," *Journal of English for Academic Purposes*, vol. 17, pp. 12–23, 2015, doi: 10.1016/j.jeap.2014.11.006.
- [102] Y. Dong, "A rating scale for assessing critical thinking in L2 writing: Exploration and practice," *Foreign Language Education in China*, vol. 10, no. 1, pp. 23–30, 2017.
- [103] H. T. Min, "Effect of teacher modeling and feedback on EFL students' peer review skills in peer review training," *Journal of Second Language Writing*, vol. 31, pp. 43–57, 2016, doi: 10.1016/j.jslw.2016.01.004.
- [104] C. Zhao, A. Pandian, and M. K. Mehar Singh, "Instructional strategies for developing critical thinking in EFL classrooms," English Language Teaching, vol. 9, no. 10, p. 14, 2016, doi: 10.5539/elt.v9n10p14.
- [105] M. S. Ibarra-Sáiz, G. Rodríguez-Gómez, and D. Boud, "Developing student competence through peer assessment: the role of feedback, self-regulation and evaluative judgement," *Higher Education*, vol. 80, no. 1, pp. 137–156, 2020, doi: 10.1007/s10734-019-00469-2.

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