

THE EFFECTS OF ONLINE CHINESE CRITICAL THINKING CURRICULUMS ON STUDENTS IN MAINLAND CHINA

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ABSTRACT-The newly released Language Curriculum Standards for Compulsory Education by the Ministry of Education of mainland China emphasises the importance of developing critical thinking skills, and the value of related online curriculums is receiving increasing attention. Many studies have shown that essential thinking education develops students' creativity and self-diversity. However, it is necessary to note that this concept may need to be more idealised. A qualitative study was conducted using a case study approach to investigate further. The study involved semi-structured interviews and manual thematic coding with three teachers of online critical thinking curriculums. The results highlight that online essential curriculums of thinking have value, but the teacher, the students, the model of instruction, the teaching content, and the learning platform influence their effectiveness.

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INTRODUCTION

Since the ravages of COVID-19 in 2019, many urban solid control policies have been adopted in mainland China, and people are often not allowed to participate in group activities. Therefore, many offline education companies have had to close their classrooms and stop teaching activities. In 2021, the Ministry of Education of mainland China announced the "double reduction policy", emphasising that education companies are prohibited from organising subject-based training on national holidays, rest days, and summer and winter vacations. This policy has forced many subject-based education companies to consider a transition. According to statistics, the number of offline subject-based training providers in China decreased by 92.14% in 2021 (Qiu et al., 2022). With the recent release of the Language Curriculum Standards for Compulsory Education (2022), which emphasises the importance of critical thinking skills for primary school students, a few education companies have started to develop online essential curriculums of thinking to avoid the restrictions of the double reduction and epidemic control policies.

Critical thinking is often used to describe rational, reflective thinking (Pithers & Soden, 2000). Kennedy et al. (1991) stated that "They are brought to bear in identifying a problem and its associated assumptions; clarifying and focusing the problem; and analysing, understanding and making use of inferences, inductive and deductive logic, as well as judging the validity and reliability of the assumptions, sources of data or information available". For online critical thinking curriculums, designers need to consider not only the depth of the topic but also reduce the difficulty so that primary school students can understand the lesson's content. At the same time, curriculum designers may also need to integrate it with traditional Chinese culture to enhance students' sense of cultural identity. Most importantly, online curriculums must not be

disconnected from the compulsory school curriculum, nor must they export too much value that goes against mainstream values. Therefore, online critical thinking curriculums inevitably have many challenges.

PROBLEM STATEMENT

In the primary school language classroom, there are often problems with students' expression, such as poor quality of oral expression, written expression without independent thinking, and a lack of discursiveness and criticality (Wang & Chen, 2022). Many Chinese parents are willing to allow their children to study a diverse curriculum at the primary school level (Yang, 2022), and online Chinese critical thinking programmes are gaining attention from many families as a new hotspot. However, teachers' language and behaviour in online teaching primarily affect teaching effectiveness and teacher quality (Li, 2023), and extracurricular education companies are often less effective than expected (Ma, 2022). Therefore, many parents have also questioned the effectiveness of online critical thinking curriculums. This study will judge the educational value of essential curriculums of thinking to help Chinese parents understand their significance. At the same time, this study can also provide some ideas for transforming educational institutions.

The research question in this study is how online critical thinking curriculums impact learners' thinking skills.

This study aimed to discuss the impact of an online critical thinking course on students' thinking skills.

LITERATURE REVIEW

Extracurricular Tutoring Environment in China

Extracurricular tutoring is often defined as a form of learning that students actively or passively participate in, in addition to schooling, and specifically refers to activities that cultivate excellence or make up for poor performance in subject curricula (Peng, 2009). Cheng and Chen (2014) point out that many parents realise the inadequacy of school education in meeting their students' holistic and personalised development and are forced to choose better quality extracurricular tutoring to make up for the shortcomings of school education. Yao's (2016) study found that a sense of competitiveness among students also drives participation in extracurricular tutoring. All students who participated in extracurricular tutoring were dominated by subject knowledge-based tutoring, with most students tutoring in more than two subjects (Liu, 2018).

The Importance of Critical Thinking Education

Developing thinking skills is a priority in education in many countries. The American Council on Educational Policy (1961), in its Central Purpose of Education in the United States, emphasised that the thinking skills developed are the most critical purpose in any context. In the UK, the focus on higher-order thinking skills was raised in the 1970s (Wang, 2018). In 2010, the Singapore Ministry of Education introduced the 21st Century Literacy Framework, which emphasises the importance of thinking skills (Shi et al., 2016). Li (2012) points out that the first articles introducing ideas of critical thinking education in China appeared in 1986 and 1987.

However, the development of critical education in China has been slow. Dong (2015) argues that the primary resistance comes from the uncritical cognitive dispositions in the Chinese tradition and the materialistic values of modern Chinese society. The Chinese Ministry of Education has clarified the importance of critical thinking education, and an objective cognition of critical thinking is critical.

The advantages and disadvantages of critical thinking.

Critical thinkers are reflective, collaborative, analytical, and open to various cultural challenges (Lombardi et al., 2022). The findings of Álvarez-Huerta et al. (2022) suggest that there is not only a direct positive relationship between critical thinking and students' creative beliefs, but also the relationship facilitates the development of their self-diversity. Meanwhile, students who think analytically and critically can make interdisciplinary connections and gain a deeper and more sustained understanding of content (Tathahira, 2020). Although critical thinking has many advantages, its existence as an over-idealisation cannot be ignored when designing instruction (Pettersson, 2020). At the same time, critical thinking may face challenges due to the complexities of social competition (Mildawani et al., 2022). However, on balance, there is no doubt that critical thinking enhances learners.

The elements of a critical thinking classroom

Critical thinking education is wide-ranging and complex, and several key elements must be grasped when teaching. The first element is the teacher, and research by Zhao and Liu (2022) suggests that the development of critical thinking in higher education for university students is not progressing well, with some students recognising only basic, surface-level concepts without a deep understanding. According to Aydin's (2022) analysis, many teacher candidates could only achieve a 'good' level of critical thinking skills. Aljaafil and Sahin (2019) indicated that for some teachers, the theoretical concept of critical thinking and the skills that make it up were somewhat ambiguous. This shows that teachers' competence and quality significantly impact the quality of the classroom.

The second element is the mode of teaching. A student-centred model of teaching and personalised learning, as opposed to a teacher-centred model, allows students to acquire high levels of critical thinking skills (Xhomara, 2022). The teaching model in a critical-thinking classroom should ensure that students have a greater degree of autonomy. In other words, the teacher is a facilitator of the topic, not the knowledge instructor.

The third element is classroom content. In this regard, Aslan and Aybek (2020) concluded from a t-test that interdisciplinary education helps to develop students' critical thinking skills. Similarly, Saygin and Karakas (2021) showed that primary school students' critical thinking skills and empathy can be developed through activities based on social skills. Furthermore, Dulun and Lane (2023) suggested that ideas could be sought from the learning approaches outlined by the International Baccalaureate Organisation. Similarly, the study by Lu (2021) concluded that students generally held a positive view of their environment and that blended learning environments could help promote their critical thinking in different areas. In the classroom, teachers should focus on the construction of students' metacognitive awareness, which contributes to critical thinking, and that their relationship is bidirectional (Rivas et al., 2022), which is also like the findings of Akcaoğlu et al. (2023). The study by Manassero-Mas et al. (2022) also suggested that focusing on the six areas of confidence in reasoning, truth-

seeking, open-mindedness, curiosity, systems, and critical analysis are six indices that contribute to developing students' critical thinking skills.

The fourth element is the teaching and learning platform. Although some scholars have criticised distance education, Temel's (2022) findings suggest that critical thinking courses delivered by distance education have a positive impact on students' skills and dispositions. This shows the feasibility of online critical thinking education based on quality assurance in the classroom. Also, the usefulness and richness of the online teaching platform is essential.

All in all, arguing the effects of online critical thinking curricula requires a focus not only on the content and delivery model but also on the delivery platform and the quality of the teachers.

METHODOLOGY

Research Design

To gain a deeper understanding of the pedagogical effectiveness of the online critical thinking course, this study uses a case study research method of semi-structured interviews with the participants. Before the interview, the researcher observed their recent work memos to get more information about their work situation. Following the interviews, the researcher coded the data for analysis.

Population and Sampling

The participants in this research project were instructors of online critical thinking classes who were required to have at least one year of experience in teaching and designing online critical thinking classes. A convenient Sampling method was used for this study as suitable resources were available to the researcher. Three participants were teachers of a medium-sized online critical thinking education company in Hangzhou, and all had contact with over three hundred students from all over China. The company has a good influence in the field of critical thinking education.

Data Collection

The researcher obtained data through semi-structured interviews with three participants, and the participants confirmed the content of the data. At the same time, the researcher translated and backtranslated the transcript to ensure the validity and completeness of the data. Based on the back-translation, it was found that the similarity with the source data was high. Therefore, the data from the interview is valid.

Following Kamarudin's (2023) suggestion, the researchers used manual thematic coding of participants' transcriptions to analyze the data. First, participants' interview transcripts were divided step by step into multiple chunks of data. Subsequently, the researchers extracted salient points from the data chunks, divided into multiple groups according to a coding level and subsequently named. These named names would become the new salient points at the next coding level. After several successive groupings and naming, the researcher eventually extracted three themes from all the data. In the following sections, the researcher will describe the themes in detail.

Measurement/Trustworthiness

The data collected for this study was from frontline practitioners, and the interviews covered their daily work, so the data obtained is reliable. Also, the findings of this study are transferable in that they can be applied to evaluating similar types of educational companies. The researcher recorded This semi-structured interview throughout, and the participants' emotions were recorded in time. Also, after transcribing the Chinese into English, the researcher contacted the participants to double-check the content to ensure that it was their genuine opinion. Finally, the study is reproducible, and the findings can be replicated in other online critical-thinking classrooms.

RESULTS

Table 1 Explanation of Themes

Themes	Explanation of Themes
Individuals	Participants noted that teachers, students, and parents were all important factors in measuring the critical thinking curriculum.
Classroom model	Participants pointed out that the group of learners and the classroom model significantly impacted the critical thinking curriculum.
Impact	Participants indicated that their outcomes and processes should judge the impact of a critical thinking curriculum.

In **Table 1**, the researcher identified three themes based on the analysis of the data, which showed how the three participants perceived critical thinking education.

Individuals

The quality of people

The theme of individuals, including teachers, students, and parents, was the most frequently mentioned by participants. This may indicate that individuals are one of the most important elements in critical thinking curriculum education.

The importance of teachers in critical thinking education curriculum is self-evident. Interview data reveals that the level of a teacher's proficiency may significantly impact the classroom. Many participants pointed out that as a critical-thinking teacher, one needs to possess various abilities.

Etta points out that “a teacher should first have some thinking skills, secondly have teaching experience, thirdly have management level, and then be more adaptable and have problem-solving skills to be more outstanding.”

Shi elaborated on more details in his viewpoint: “Have the basic thinking skills, right? Moreover, it is essential to have a higher level of thinking skills. Another thing is that the teacher has a certain degree of expressiveness that can attract students. There is also the ability

to respond to the situation and the teacher's ability to be tolerant and receptive to different kinds of thinking and so on.”

Gu explained this topic clearly: “1. screen teachers for their logical thinking skills and ability to think and respond to critical thinking. 2. A teacher's humanistic and empathetic skills are also critical.”

In addition to the teaching faculty, students' qualities can also affect the effectiveness of the class.

Shi shows a phenomenon: “The cognitive level of children from cities, especially those from first-tier cities, must be higher than that of students from other administrative levels in other provinces” he also mentions that “if a student is outstanding, a student his level is relatively low, then they together are actually cannot produce a perfect debate effect.”

Although the main participants of online courses are teachers and students, some parents may serve as supervisors or companions to help their children learn. Due to the varying parental involvement levels, unexpected situations beyond the teacher's expectations may arise.

According to Shi's viewpoint, “some parents who at some point cannot accept this thinking of ours, or go into this thinking discussion, and it hinders our education.”

The attitude of the teachers

Compared to the traditional teacher-centred classroom, the critical thinking classroom places students at the centre, and the teacher mainly plays the role of a facilitator. In contrast to students who are still growing and developing, the teacher's attitude towards the type of curriculum can reflect the value of the course from another perspective. On this topic, all three participants have a relatively positive attitude.

Etta suggests that “the attitude is more encouraging. Critical thinking education is like a snow course; it is not a compulsory course, but it is an optional course.”

Gu said, "It is still relatively supportive because I feel it is still needed, but it will not necessarily become a special class.”

Shi strongly affirmed the curriculum. He announces that “critical education is needed. If education in discernment really becomes a basic education one day, I think our civilisation can be improved more.” Also, he shares a personal suggestion: “The promotion and development of critical thinking education cannot be done in a hurry.”

Classroom model

The educable population

As a new field in mainland China, the audience for critical thinking courses deserves attention. The three participants have different views on this issue.

Etta points out that “primary school students should be taught to think critically, but not all students are suitable for critical thinking education.”

Shi's viewpoint is more inclusive. He believes that “anyone should be educated in critical thinking, no matter what stage they are.”

Gu mentions, "The curriculum should not only be aimed at students but also parents and teachers.” Furthermore, she suggests that she “hopes that it will be accessible to every community, to every child. It can be integrated into schools, not just as a professional course.”

Class format

There are various models for class composition, among which the representative ones are online and offline classrooms. Although the three participants are all online critical thinking course teachers, they all believe offline courses have more advantages.

Among the three participants, Shi's viewpoint is more specific. He said, "Offline education is better because I can make you feel what I want to convey through the temperature of my words and actions and so on."

For online courses, different platforms can also have other educational outcomes.

Etta believes "there is still a rather big difference between the different platforms."

Shi stated, "The more advanced the software, the more effective it is in education."

The class size in Chinese public primary schools is usually at most 45 students, which is unsuitable for a student-centred, critical-thinking classroom. As for online courses, the three participants provided their perspectives.

The view of Etta is that "a class should ideally be one teacher with six students."

She has a range of sizes in his understanding. He pointed out that "ten people, when the teacher's energy is low, will be distracted by more students, and the effect is not as good as five to eight people on this scale volume."

Gu did not provide a specific number, but she offered a tendency. She stated, "This should not be a huge class size; it is probably best to have a small class size. It can be a family type of such a format, and then it can also be the kind of a group format, the number of people still needs to be controlled, I ideally should not be a large size of a format."

Impact

Online critical thinking education courses usually involve students discussing specific topics, where the teacher does not present a standard answer but guides them at appropriate times.

Shi mentions, "When we give the final educational conclusion, it is often an open-ended conclusion for the students to draw, and it is more a matter of the students making their judgments in their own lives about our ideas."

Negative Impact

This type of classroom also inevitably has some things that could be improved. The three participants all expressed their concerns.

Etta states, "Such a way of thinking may bring some paranoia. It is a way of teaching students to go astray. However, most people do not do that."

She says it is "tough for them to apply some of these so-called skills and thinking methods to their lives." "Still mostly adopt their intuition or subconscious to decide on some issues and think about some problems."

Gu has the most extended critical thinking teaching experience among the three participants and expressed more profound concerns. She said, "taught him some things about logic, and that more logic might add to their nothingness. When you hear them say something philosophical and thought-provoking, you wonder if they understand and agree with what they are saying. I think I might be sceptical about that." Afterwards, she explains it further. "It is a fading away of childhood. They become very clever; they can recognise reality and figure out logic, but I am teaching them a tool for critical thinking while depriving them of a right to rely

on it. Kids, after all this stuff was overturned, if they had not been given advice, I think it would have been hard.”

Positive Impact

As the answers in critical thinking classrooms are open-ended, students can cultivate their thinking and language expression abilities through learning. Although the three participants expressed some concerns about the critical thinking course to varying degrees when the researcher confirmed their overall attitude towards the course, their answers were generally positive.

Etta points out, "For students' value words, one is thinking, and then one is the ability to speak a bar, an expression.”

Shi states, "It is important to help them develop the right way of thinking as early as possible to help them develop later.”

Although Gu has the most concerns about the classroom, she still expressed positive feelings when the researcher reconfirmed her attitude towards critical thinking classes. She said that “it is still necessary, there are some topics that are good and that we think will be very meaningful, but it may be necessary to approach them in different ways.” “This kind of critical education, among other things, has to add a more humanistic perspective and to go to be able to relate to more concrete people, more concrete lives, in terms of this stuff that might be related to home education.”

DISCUSSION

Teachers and students were always two critical factors in the responses of the three interviewees. They emphasized the importance of the individual teacher's quality to the classroom's quality. Also, they noted the students' contribution to the classroom, which has similar positive results to Ren's (2023) conclusion that critical thinking education can effectively enhance students' quality of thinking and contribute to teachers' professional development. Regarding the course, all three respondents felt that offline classes were more advantageous than online classes and that smaller classes were more advantageous than larger ones. As the study of Feng (2022) points out, students need to have a high level of self-control and be able to discipline their behaviour when engaging in online learning compared to offline classrooms. Regarding attitudes towards the course, the three respondents produced different views with different tendencies. However, overall, the three respondents showed positive attitudes towards the course. As the research of Wang (2023) concluded. However, there are realistic dilemmas in teachers' teaching. Teachers should change their concepts and further optimise their teaching strategies, and critical thinking education in primary classrooms meets the requirements of the times and is necessary.

CONCLUSION AND IMPLICATIONS

Online critical thinking curriculums could be better. On the contrary, it has many uncontrollable elements. However, online essential curriculums of thinking facilitate improving students' thinking, especially for the best students. Cultivating primary school students' critical thinking ability is a long-term project requiring teachers to conduct in-depth research, combine it with the characteristics of their development, and explore effective paths to enhance their critical thinking ability (Xu, 2023). Education companies need to consider the teacher, the

students, the mode of delivery, the content and the environment when designing a program. Parents can consider different factors when selecting a critical thinking curriculum.

This study has limitations because of the small number of participants and the insufficiently rich sample. In further research, offline classroom studies and more specific pedagogical content and presentation of critical thinking education should be included.

DATS AVAILABILITY DECLARATION

The original contributions encompassed within this study are comprehensively documented in the article and accompanying supplementary materials. Should additional inquiries or data-related requests arise, kindly direct them to the attention of the corresponding author.

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CONFLICT OF INTEREST

The authors herein assert that the research undertaken was executed without the influence of any commercial or financial affiliations, which may be perceived as potential conflicts of interest.

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