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How do Chinese psychology students in the UK perceive critical thinking?

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Abstract: *This study used qualitative method to investigate Chinese psychology students' perceptions and experiences about critical thinking in relation to Wenke and Like education background. Using data from qualitative interviews of nine Chinese psychology students studying at University of Glasgow, the study found that Chinese students' conceptualisation of critical thinking shared key components with the conception in the West but also had unique characteristics under the influence of culture and personal experiences. This project not only filled gaps in academic research, but also provided data for institutions and teachers to improve course content, pedagogy and assessment and suggestions for the ongoing education reform about Wenke/Like classification in China.*

Keywords: *critical thinking, Chinese students, academic adjustment*

1. Introduction

In UK higher education, critical thinking is regarded as a necessary requirement for postgraduate students and has been stated in the Quality Assurance Agency for Higher Education's (2003) assessment criteria for master's level. As for China, there is no clear statement about the requirement for critical thinking found in Chinese national education policy, and evidence shows the education in Chinese universities is generally teacher-centred, non-communicative and focuses on knowledge instillation rather than the cultivation of critical thinking (Rastall, 2006[1]; Zhang, 2017[2]). Therefore, adjusting to the new requirement for critical thinking is one of the most important and difficult tasks for Chinese students. However, little research has yet been found on Chinese students' perception and adjustment to the critical thinking requirement in the UK. *Wenke* (similar to arts, humanities and social science) or *Like* (similar to natural science) is a widely used classification for academic disciplines in education policy and practice in China. Quantitative research has found that *Wenke* and *Like* students are different in thinking styles (Wang & Wang, 2017)[3], critical thinking dispositions and critical thinking skills (Lu, 2018)[4]. Investigating *Wenke* and *Like* students' perceptions and experiences about critical thinking has many academic and practical implications, such as providing data for the long-debated problem of domain-specialty in critical thinking and helping improve tutoring tailored to individuals.

2. Literature Review

2.1. The conceptualisation of critical thinking in Western literature

Critical thinking is a cross-disciplinary ability important for both academic and daily life. Historically, it has been studied from three perspectives: philosophical perspective, psychological perspective and educational perspective (Lai, 2011)[5]. Though the understanding of critical thinking varies among different approaches, most researchers agree on the two components of critical thinking: cognitive skills involved in the thinking process (e.g. analysis strategies), and dispositions to apply these strategies (e.g. personality traits).

The separation between skills and dispositions is supported by empirical research showing that these two components are independent entities (Facione, 1995)[6]. Most researchers agreed on some general critical thinking skills: observation, questioning, imagination, information-seeking, inference, experimenting and emotional abilities. Critical thinking dispositions can be further categorised into two groups: initiating dispositions, which lead a person to start the action of critical thinking; internal dispositions, which maintain the ongoing process and quality of critical thinking (Hitchcock, 2018). Background knowledge also plays a significant role in critical thinking. It can be divided into two

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categories: general knowledge about critical thinking concepts and skills, and domain-specific knowledge about the object of thinking.

2.2. Chinese students and critical thinking

Chinese international students are usually described as being passive listeners in lecture and group discussions (Schweisfurth & Gu 2009[7]; Turner 2006[8]); learning mainly by repetitive reading and memorising (Entwistle & Tait 1994; Harris, 1995[9]) and lacking critical thinking (O'Sullivan & Guo, 2010)[10]. Though there are Chinese students who do not fall into these stereotypes, many Chinese international students did report difficulties in meeting the needs for critical thinking in the western academic environment (Biggs & Watkins, 2001[11]; Turner, 2006[12]; Wang & Byram, 2011[13]). Explanations for these phenomena include prior education experiences, insufficient English proficiency, the lack of university support and cultural differences (Quan, He & Sloan, 2016)[14]. Among all these factors, the role of Chinese culture is a much- debated topic in this research field.

Some scholars argued that critical thinking is a unique concept of western culture, constructed in the unique western history from ancient Greek philosophy to the Enlightenment (Facione, Giancarlo, Facione, & Gainen, 1995; Atkinson, 1997)[15]. Some scholars, on the other hand, argued that critical thinking is universal across different cultures (Paton, 2005; Sternberg & Halpern, 2020)[16]. Many researchers took the third stance in the "cultural-universal" debate, arguing that culture is important in the development and conceptualisation of critical thinking, but some parts of critical thinking such as cognitive skills and reasoning rules are universal across cultures (Sternberg & Halpern, 2020; Tian & Low, 2011)[17]. Research showed that the sense of humility, offence-avoiding orientation and the notion of "face" negatively influenced Chinese samples' reasoning (Durkin, 2008)[18], whereas the emphasis on reflective learning and inquiring in Confucianism may bring positive effects on Chinese students' critical thinking (Kim, 2003[19]; Ma, 2004). This holistic approach emphasises the importance of context and the danger of cultural stereotype and oversimplification, calling for a multi-dimensional approach which explores complex interactions between different factors (Tian, 2008[20]; Tian & Low, 2011).

2.3. Wenke/Like and critical thinking

In China, *Wenke/Like* is a widely used classification for academic disciplines in education policy and practice. Different curriculum, requirements and examinations are applied to *Wenke* (similar to arts, humanities and social science) and *Lik*e (similar to natural science) students. Since *Wenke* and *Lik*e students receive different academic training, learn different knowledge and have different social environment in school, it can be assumed that *Wenke* and *Lik*e students may differ in their critical thinking related experiences.

Empirical studies have found that *Wenke* and *Like* students are different in information choice behaviours (Long & Yang, 2015)[21], learning behaviours (Li, 2015)[22] and thinking styles (Wang & Wang, 2017). Lu (2018)'s quantitative research found that there is no significant difference between *Wenke* and *Lik*e graduate students' mean scores in critical thinking dispositions. However, they are different in sub-dimensions. *Like* students have better performance on academic category, intellectualness, emotionality, analyticity, inquisitiveness, self-confidence and truth-seeking, while *Wenke* students' scores are significantly higher than that of *Like* students on social category, morality, cognitive maturity and open-mindedness. As for critical thinking skills, the mean value of *Like* graduate students is higher than that of *Wenke* graduate students. *Like* participants scores higher than the other group on analysis and inference, while *Wenke* students have better performance than *Like* students on evaluation. However, the critical thinking scales employed in Lu's study is limited to objective multiple-choice questions, making it difficult to explore participants' subjective experiences, feelings and perceptions about critical thinking. This suggests the requirement for qualitative research, but no existing qualitative literature regarding this topic has been found.

3. Method

This study conducted semi-structured interview to collect data about *Wenke* and *Like* Chinese psychology students' perception of critical thinking, and used Thematic analysis via MAXQDA 2020 to analyse the qualitative data. The study aimed to explore Chinese psychology students' perceptions and experiences about critical thinking in relation to *Wenke* and *Like* education through these three research questions:

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1) How do Chinese *Wenke* and *Like* psychology students conceptualise critical thinking?

2) How do Chinese *Wenke* and *Like* psychology students perceive and adjust to the requirements for critical thinking in psychology courses?

3) How do Chinese *Wenke* and *Like* psychology students perceive the influence of *Wenke* /*Like* education on their critical thinking?

3.1. Participants

Nine participants were recruited through advertising in a Facebook chat group that gathered all Chinese students enrolled in MSc Psychological Studies of University of Glasgow. All participants are from Chinese Mainland. No participants had learning experiences in western countries before enrolling in the MSc Psychology Studies programme. Participants' choices of *Wenke* or *Like* and previous majors were collected and no other demographic information was obtained. Among all the nine participants, four students choose *Wenke* in high school streaming (Que, Hao, Zoe, Yanni), five students studied *Like* in high school and college (Lian, Ran, Yu, Xin, Mang), and three students have both *Wenke* and *Like* background (Lian, Ran, Mang). Aligned with the education policy in China, all these three participants are *Like* students in high school.

3.2. Procedure

Interviews were conducted with each participant through Zoom due to the Covid-19 situation. Individual interviews are well suited to exploring attitudes, experiences, beliefs and perceptions. The flexible schedule in semi-structured interviews allows participants the freedom to express their views in their own terms, helps clarify interesting and relevant issues and creates a rich picture of the participants' experiences about critical thinking (Barriball & While, 1994)[23]. Considering the number of participants and potential distress caused by long time commitment, each interview took approximately 30 minutes (excluding the research introduction and greeting parts) to ensure the amount of collected data and reduce the risk of negative emotions. To ensure the credibility of data interpretation, participants were invited to check the appropriateness of English translation and interpretations of their own interview data. Member checking is a crucial step in qualitative research to establish trustworthiness of results (Birt, 2010; Cho & Trent, 2006; Harvey, 2015).[24]

4. Findings

The thematic analysis identified four themes: "conceptualisation of critical thinking", "changes during the Masters year", "perceived barriers to adaptation" and "dualistic thinking about *Wenke* and *Like*". This categorisation combined both top- down consideration and bottom-up approach, in order to capture the representative features revealed in interviews in relation to research questions. Extracts have been selected to explain each of these themes, beginning with "the conceptualisation of critical thinking".

4.1. Conceptualisation of Critical Thinking

Though participants provided various conceptions of critical thinking, there were shared characteristics in their discourse. First, among the three components of critical thinking, cognitive skills were most commonly mentioned in participants' definitions of critical thinking. *Wenke* and *Like* participants tended to emphasise different cognitive skills in their conceptualisation of critical thinking. Second, when asked what is most required to achieve critical thinking, the majority of participants suggested the knowledge about subject-matter.

4.1.1. Cognitive skills.

Participants provided a variety of cognitive skills in their conceptualisation of critical thinking, such as information seeking, information synthesis, logical inference, problem solving and other higher-order thinking skills. Most of *Like* participants highlighted the importance of logical reasoning and regarded the thinking process in *Like* studies as examples of critical thinking.

Wenke participants also viewed reasoning as an important component of critical thinking, but they tended to use daily-life or social issues rather than solving academic problems as examples. Zoe reflected on her experience of "choosing online courses"; Yanni considered the process of "selecting travel itinerary" as a demonstration of critical thinking. Moreover, *Wenke* participants focused more on

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strategies related to information choice and evaluation than *Like* students. *Wenke* participants tended to emphasise information choice and evaluation, while *Like* participants provided detailed descriptions of the process of inference.

4.1.2. Knowledge about the subject-matter of the thinking.

Another component appeared frequently in participants' conceptualisation of critical thinking is knowledge about the object of thinking, and no significant difference was found between *Wenke* and *Like* participants' discourse on knowledge about the subject-matter. When asked what was needed to achieve critical thinking, the majority of participants mentioned background knowledge first or indicated it directly as the most essential requisite for critical thinking.

Lian made an intuitive judgement about the relationship between the amount of substantive knowledge and people's tendency to believe others' opinion, saying "the fewer knowledge we have, the more we tend to believe others". Many participants expressed similar idea, and some of them reflected on their experiences of psychology learning to emphasise the role of substantive knowledge in critical thinking.

4.2. Changes during the Masters Year

In participants' reflection on critical thinking, almost all participants mentioned that they experienced changes in their understanding of critical thinking with nosignificant difference between *Wenke* and *Like* students. They talked about their perception of critical thinking established in China and how previous conceptions challenged as a result of exposure to new learning environment and requirements. Three common trends were identified and would be discussed in turn.

4.2.1. From fault-finding to evaluation.

Many participants mentioned their previous consideration of critical thinking as a critique of certain opinion, behaviour and phenomenon, but now they thought it was closer to evaluation rather than critique. For example, Lian used to think critical thinking was to "pick holes", but after she came to study in the UK, she found "critical thinking needs considering both advantages and disadvantages, strength and weakness; it's evaluation rather than critique". Lian's underlying attitude towards her previous opinion and learning experiences was negative. She used the word "superficial" to describe her previous understanding of critical thinking, and attributed this "superficial" conception to the lack of relative education in China.

4.2.2. From binary thinking to multiple perspectives.

Some participants mentioned that academic experiences during the masters year made them aware of the limitations of binary-thinking pattern. Xin talked about her change of conception of critical thinking from "dividing things into the affirmative and the opposition" to "evaluating from many different perspectives". Ran illustrated how she changed her critical thinking practice under the influence of essay writing instructions. She used to consider an issue by dividing it into positive side and negative side, but now she has learned how to critically evaluate a paper from multiple aspects.

This change from binary thinking to multiple perspectives is closely related to the previously identified theme "from fault finding to evaluation". Fault finding can be one manifestation of binary thinking, as the underlying premise is that things are divided into the positive and the negative. However, their emphases are different: fault finding focuses on seeking and proving negative factors, while binary thinking can involve both picking holes and evaluation as long as the evaluation is based on binary division. Multiple-perspectives thinking emphasises viewing an issue from different perspectives and considering in what circumstances and to what extent the possible reason, influence or solution is reasonable. It requires sophisticated thinking processes and opposes the simplification of complex issues. Therefore, participants' realisation that critical thinking involves multiple-perspectives thinking implies a deeper understanding of critical thinking compared with the change from fault finding to evaluation.

4.2.3. Increased meta-cognition.

Instead of the structure of psychology education, some participants emphasised the role of its content in their improvement of critical thinking awareness and skills, especially the role of psychological knowledge about thinking itself. Mang thought knowledge about thinking process and cognitive biases she learned in psychology courses deepened her understanding about critical thinking. She "realised how easily people's thinking can be biased and irrational" and increased her reflection on her own thinking. As for other aspects about the programme, such as instructions and assessment, she "did not think they

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took much credits" for her critical thinking improvement.

Interestingly, participants referring to meta-cognition all emphasised its role in monitoring their own thinking but did not mention how the realisation of biases can help them criticise other's thinking or opinion. This can be related to the influence of Chinese culture on critical thinking, which will be discussed in the next section.

4.3. Perceived Barriers to Adaptation

Striving to meet the new assessment requirement for critical thinking, participants encountered various barriers coming from both the current situation and culture. Two key barriers emerged from the interviews, and we shall see how the participants struggled to cope with these challenges.

4.3.1. The orientation of conflict avoidance.

Many participants mentioned their uncomfortableness when making argumentation, especially in the case of expressing disagreement or criticism. These negative emotions lead to the avoidance of explicit argument and even certain topics. Que mentioned her uncomfortableness when making argumentation, especially in the case of expressing disagreement or criticism. These negative emotions lead to the avoidance of explicit argument and even certain topics.

Xin also experienced emotional conflicts in the face of disagreements. She said she hates it "when seeing disagreements and arguments because they can be aggressive and bring me a lot of fierce emotions". These emotions made her "afraid", especially when "the topic is feminism, politics or others which can evoke my emotions". Xin had a clear realisation of her avoidance behaviour but displayed a contradictory attitude: she knew "it's not a good thing", but did not show any strong motivation to change. She used the conception that critical thinking is the "evaluation" of different ideas to justify her acceptance of current situation, as evaluation seems to be a way which brings her fewer challenges than the way of "aggressive arguments".

However, compared with Xin, Lian took a more active approach to deal with the orientation of conflict avoidance: "I used to have a negative impression of western-style argumentation, because it's often direct and easy to become aggressive. Now I have realised that what it needs is not extreme ideas but balanced ideas; critical thinking is not criticising but requires the understanding of all possible opinions. I think it's quite similar to the Golden Mean of Confucius, as it also advocates a peaceful, neutral mindset".

Lian's speech provides a new perspective to consider the conception change mentioned before. Like many participants, the psychology master programme is the first time Lian was seriously required to develop critical thinking ability. However, many participants held negative impression of critical thinking, so a transitional phase was experienced where they re-thought about the conception and significance of critical thinking and adjusted their perception, attitude and behaviour. Conflict avoidance is the orientation they have brought with them as the result of complex interaction among environment (which includes culture) and personality. It is also an orientation they have to adjust if it impedes the implementation of critical thinking. Here, Lian's conceptualisation of critical thinking as "evaluation" is one of the results of her adjustment. She tried to avoid the direct, aggressive elements of western-style critical thinking she perceived, and combine it and traditional values by interpreting critical thinking in terms of Chinese culture.

4.4. Dualistic Thinking about Wenke and Like

In this theme, the participants' *Like* /*Wenke* learning experiences and their perceived influence of these experiences on critical thinking are discussed. Though interview questions were designed to focus on the experience about the kind of education each participant received rather than the comparison between *Like* and *Wenke*, almost all participants talked about their experiences in a comparative way, as if the features of one category were difficult to define without comparing with the other category.

The differences in *Like* and *Wenke* learning styles was a topic referenced frequently by participants. In general, most of the participants agreed that memorising facts and concepts was the main learning strategy used in *Wenke* learning while studying *Like* required the immersion in practising test questions. However, compared with *Wenke* participants, *Like* participants had more negative impressions of *Wenke* learning styles. For example, Yu and Xin both viewed *Wenke* learning as rote learning and believed *Like* is more helpful in improving critical thinking skills than *Wenke.*

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Compared with *Like* participants, participants who choose *Wenke* education in high school or university showed fewer negative impression towards *Like* learning styles. Though they admitted the importance of memorisation in *Wenke* learning, they only viewed it as the fundamental ability and emphasised the role of other *Wenke* learning strategies such as extensive reading, debates and analysis in the improvement of critical thinking.

There is one shared feature of *Like* and *Wenke* participants' speech: the belief that the kind of education they chose is more effective in cultivating their critical thinking than the other type. These beliefs may be one of the reasons for their choices of *Like* and *Wenke,* or reflect the cognitive bias which views the value of one's own choice higher than that of the alternative choice. As for participants who have experienced both *Like* and *Wenke* education, such as Lian, this inclination is less obvious. Lian experienced a change in the perception of *Wenke* learning after enrolled in a *Wenke* major in university, which is quite similar to the conception change about critical thinking after she came to the UK. Here we can see the principle behind perception change: new experiences bring new information and perspectives, leading to the re-thinking of previous opinion.

Besides learning styles, there was another typical view about *Wenke* and *Like* among participants: *Wenke* and *Like* discuss different types of topics and therefore prefer different thinking approaches. *Wenke* focuses on cultural and social issues which have no certain answer, leading to inductive, divergent thinking which is suitable for "exploring many possible reasons and solutions"（Yanni）. On the contrary, *Like* requires deductive thinking to apply theorem to the problem to be solved and convergent thinking to "find the one final answer to the problem" (Ran). Xin further analysed strengths and weaknesses of *Wenke* and *Like* thinking in the implementation of critical thinking. Xin did not how obvious preferences between *Wenke* and *Like* thinking compared with her opinion on *Wenke* and *Like* learning. This was a shared characteristic among participants: they talked about the differences in a more objective way and expressed more analytical ability in their speech about thinking styles.

5. Discussion and Conclusion

This research project aimed to explore Chinese psychology students' perception and experiences of critical thinking in relation to their *Wenke* and *Like* background. This was achieved through identifying four main themes which will be discussed in relation to past research in the area, and how they contribute to answering the research questions.

The definition of critical thinking as cognitive thinking skills among most participants accords with the conceptualisation provided by many Western scholars (e.g. Glaser, 1941; Ennis, Millman, & Tomko, 2005; [25] Fisher & Scriven,1997[26]). This finding matches what was observed in earlier research, which showed that cognitive skills was one of the most common themes among Chinese students' conception of critical thinking (Chen, 2017)[27]. This illustrates that despite of different cultures and argumentation traditions from Western academics, the importance of logical reasoning was shared by Chinese students. However, *Wenke* and *Like* participants emphasised different aspects of cognitive skills. *Wenke* participants focused on information-seeking, synthesising and evaluating skills and preferred to use social and daily issues as examples, while *Like* participants emphasised inferential skills and used examples of solving math problems. This finding was consistent with that of previous quantitative research showing that *Like* students scored higher than *Wenke* students on academic category, analysis and inference, while *Wenke* students have better performance than *Like* students on social category and evaluation (Lu, 2018)[28]. These differences may due to their different learning experiences in *Wenke* and *Like* education, which was also reflected in their speech about *Wenke* and *Like* learning and thinking styles.

The finding that participants previously conceptualised critical thinking as "dividing things into two sides" (Ran) is consistent with that of Chen (2017) who also found that Chinese local students defined critical thinking as the evaluation of opposite points of views. In Chen (2017)'s study, participants clearly stated that this definition was influenced by the Chinese indigenous philosophy of Yin-Yang dialectics. Yin-Yang dialectics viewed universal phenomena as the integration of two opposite energies, namely Yin and Yang (Fang, 2012)[29]. As illustrated in the famous Yin-Yang symbol, there is always something black in the while, and something white in the black; black and white complements with each other rather than confrontation. Yin-Yang dualism valued the balanced harmony between Yin and Yang instead of contradiction. Chen (2017) argued that participants' lack of deep understanding of the complexities involved in Yin-Yang could lead to the tendency of analysing all issues in terms of positive and negative sides, and this simplified dichotomy might bring negative influence to critical thinking. In member

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checking, I asked participants why they previously viewed critical thinking as the analysis of issues from two sides. Yanni mentioned the concepts she previously learned in high-school philosophycourses, which to some extent confirms Chen (2017)'s viewpoint and previous studies showing that Chinese indigenous philosophy did influence Chinese lay people' thinking (Fang & Faure, 2011; Peng et al., 2006)[30].

Participants of this study agreed that learning psychology knowledge, especially the knowledge of thinking, improved their meta-cognition and therefore promoted critical thinking ability; writing research report also contributed to their awareness and implementation of critical thinking. However, many participants also expressed their need for explicit instruction of critical thinking skills. This finding supports the view that learning psychology content and methods and writing research report are insufficient to promote critical thinking if explicit instruction of critical thinking skills is not provided (Bensley et al., 2010[31]; Nieto & Saiz, 2008; Solon, 2007[32]). Interview data of this study confirmed these previous findings and provided suggestions for critical thinking instruction, such as offering explicit criteria and steps, giving detailed feedback, providing excellent examples of students' arguments as a reference, setting up an introductory course of critical thinking for International students and providing small exercises for immediate assessment.

Culture is another important factor influencing participants' adaptation to the academic requirement of critical thinking. Participants frequently used words such as "our" "their" "Chinese" "Western" in their speech, suggesting the role of perceived cultural differences in their adjustment. The practice of western-style critical thinking is rooted in Socratic dialogue, with the premise that argument should be continuously under scrutiny with doubt until its evidence and logic are proved truthful (Kahn, 1998)[33]. On this premise, an opinion can be accepted or rejected as long as there are evidence and self-consistent logic. This can easily lead to the endless cycle of criticising other sides and defending one's own side, eventually resulting in polarised arguments. Thayer Bacon (1993) described this feature of western-style critical thinking as "the battlefield mentality". This argumentation tradition is related to western communication culture which is characterised by explicit, free expression and acceptance of direct, public disagreement (Hall, 1976; Durkin, 2008)[34]. However, as the interview data suggests, these characteristics are unfamiliar to most Chinese students and even made some of participants uncomfortable, adding to emotional stress and cognitive conflict for their adaptation to the new academic culture. Previous research has found that East Asian students had different views of argumentation than Western and employed different communication strategies when expressing criticism or making an argument (Durkin, 2008). In East Asia, the maintenance of harmony in relationship and society is a highly-valued social ideal, resulting in the avoidance of offence or confrontation in communication (Hofstede & Bond, 1984; Leung, Koch & Lu, 2002[35]). Therefore, the evaluation of arguments and theories is often based on the expectation of conciliatory accommodation and dialogue, and characterised by agnostic empathy to alternative views and the emphasis on the influence of context rather than nature (Durkin, 2008; Liu, 2007[36]). In the face of different argumentation culture, the majority of participants do not fully internalise the value and norms of what they perceived as western-style critical thinking, but rather combine their cultural traditions and new-learned academic norms. This finding echoed a previous study showing that most East Asian postgraduate students choose to synergise academic traditions they brought with them and Western elements instead of fully acculturating themselves (Durkin, 2008). One manifestation of their effort for the combination was their conceptualisation of critical thinking as "evaluation". They tended to ignore the confrontational battlefield aspect of critical thinking, and preferred the conception which describes critical thinking as a more benign, unaggressive way of thinking without judgement.

This study has implications for both academic theory and educational practice. Findings of Chinese students' conceptualisation of critical thinking supports the third stance in the "cultural-universal" debate; this study also raised questions on the premise of previous cultural adaptation models which assumed the direction of students' adaptation was inevitably toward acculturation. In real life, students conduct their individual right to decide the destination, extent and way of adaptation. The study also fills the gap of research on Chinese international students' perception of and adaptation to critical thinking, hoping to make Chinese international students' voices available to educators and researchers. Apart from contributions to research, this study also has many practical implications. It provided data for institutions and teachers to improve course content, pedagogy and assessment, suggesting the mixed approach for teaching critical thinking rather than the general, immersion and infusion approach. It can also help understand the influence of *Wenke/Like* classification on students' thinking and provide information for the ongoing education reform in China. Elements for improving epistemological knowledge and science inquiry ability should be introduced to *Like* education.

It is important to acknowledge that there are also many limitations to this study. First, the sample of

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this project is small and limited. Second, the researcher's personal relationship with participants as classmates and friends may interfere with the interpretation of interview data. Third, this study was conducted from an emic (insider) perspective, which may create biases on data selection and interpretation (Beals, Kidman & Funaki; 2019)[37]. Future studies could deepen the existing qualitative research by further investigating students' adaptation, such as how they use different coping strategies in adjustment; Quantitative research is also needed to examine the links between different factors such as Wenke/Like background and critical thinking dispositions.

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