

The Role of Critical Thinking in Visual Arts in Chinese Higher Education

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Declaration

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Abstract

In Chinese higher education in the visual arts, students often focus on improving technical skills, while the development of critical thinking receives less attention. This tendency limits the depth and originality of artistic work, and it can also affect students' further study and career development. Against this background, this study examines the role and value of critical thinking in Chinese higher art education and explores how teachers and students understand and use critical thinking. The study used qualitative methods, including semi-structured interviews with teachers and students, classroom observation, and discussion of artworks.

The findings show that critical thinking is seen as an important part of artistic thinking, and it can support originality and meaningful expression. However, although students recognise its importance, their opportunities to practise it are constrained by policy pressures, traditional classroom routines, and assessment systems. Critical thinking in Chinese visual arts education is also shaped by cultural orientations. It often takes the form of internal reasoning and negotiated judgement rather than public confrontation, which contrasts with Western approaches that place more emphasis on open debate and explicit critique. On this basis, the study proposes a culturally adapted model of critical thinking for visual arts education. The model keeps the cognitive foundation of Paul and Elder's framework, while extending it through collective orientation, the integration of creativity and emotion, and the reconstruction and generation of meaning. It conceptualises critical thinking in art learning as a socially negotiated, emotionally embedded, and generative practice.

The study also offers practical suggestions for teaching, assessment reform, and teacher development. It provides a context-based framework for supporting critical thinking in higher visual arts education and offers reference points for future curriculum reform and teacher training in China.

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Chapter 1: Introduction

In recent years, Chinese higher education has undergone rapid transformation, with national policies emphasising creativity, innovation, and critical thinking as core graduate attributes (Ministry of Education, 2019; Compulsory Education Art Curriculum Standards, 2022). Within the arts, this shift is particularly pressing while visual arts education has traditionally prioritised technical proficiency, art graduates today face growing international competition and a rapidly evolving creative industry, where technical mastery alone is insufficient for professional success. Critical thinking, recognised as essential for creativity, problem-solving, and adaptability in both education and professional contexts (Facione, 1990; Halpern, 2014), therefore becomes a vital capacity, not only for cultivating originality in artistic practice but also for equipping students to navigate complex cultural, social, and professional challenges.

The motivation for this research stems from both personal experience and a recognition of a gap in the literature. My studies in Western art education revealed strong emphasis on student autonomy, reflective practice, and critical discussion, which stands in contrast to the more outcome-oriented approaches often observed in Chinese institutions. These experiences prompted me to explore how critical thinking is expressed and fostered in Chinese visual arts learning. Addressing this gap contributes to international debates on creativity, art education, and the cultivation of critical thinking.

This chapter briefly clarifies the term visual arts to aid the reader's understanding, with a fuller discussion provided in Chapter 2. Finally, this chapter introduces the overall structure of the thesis. The study is organised to move from context and theoretical framing, through methodology, to the presentation and discussion of findings. Providing this overview at the outset is intended to guide the reader and to highlight how each part contributes to a coherent understanding of the role of critical thinking in visual arts in Chinese higher education.

1.1 Research background and motivation

My undergraduate degree is in visual art design (graphic design). During the undergraduate stage, especially the final graduation design stage, I felt trapped in the shackles of technical perfectionism, and most of my time was spent on the accuracy of character perspective and the carving of brushstrokes and textures. Therefore, when the examiner asked during the defence: What does your illustration work want to express? I was silent for a long time, trying to find connotation and meaning for the audience in the work. In the end, the work was evaluated as a pile of visual techniques, with beautiful pictures but lacking conceptual depth. This imbalance between technique and thinking was deconstructed when I entered the UK to study illustration in 2018. The tutor emphasized the three-dimensional dialogue between the characteristics of painting materials, cultural symbols and critical reflection, which forced me to think about the essence of artistic creativity. The metaphors contained in the works of other British students and the conceptual meanings conveyed to the audience made me realise that there is a potential disconnect between thinking ability and technique in the learning of Chinese art undergraduates.

After graduating with my master's degree, I returned to my undergraduate school as a teaching assistant. The generality of the problem was further verified. Many visual arts students' preference for works was still in pursuit of painting techniques, for example, many oil painting students followed the Chinese realistic painter Leng Jun. Although the syllabus emphasised the development of students' thinking skills, and students tried their best to make sense of their work, most of their works floated on the surface, with their meanings being directly understandable, with clearly visible themes that did not need to be analysed in depth to be recognised. While this was certainly good enough work for the commercial task of poster campaigning, for students in higher education there still seemed to be a lack of thinking skills in the creative process.

Although innovation and creativity could be seen in some of the students' work, it seemed to be mostly in the form of technological innovations, such as the use of mixed materials. This made me wonder if art education was still mass-producing skilled

visual artisans rather than critical interpreters of culture, especially when it continued to follow the centuries-old paradigm of technique before thought. I became more and more aware of the importance of critical thinking and its potential for artistic creation, and that it was not enough just to learn about artistic skills. This dual identity experience led me to question how critical thinking could be involved in the study and creation of art. As a result, I decided to pursue a doctorate in education as a way of developing my professional practice in these areas.

1.2 Policy Context and Development of the Times

In addition to the impetus of personal experience, the Chinese policy context and cultural change are also factors driving this study. In the 21st century, where globalisation and digitalisation are intertwined, art education is facing an unprecedented paradigm shift. While traditional Chinese visual arts education has long focused on technique training and aesthetic expression, the demand for innovative talents in contemporary society is pushing educational goals towards the cultivation of deep cognitive abilities. Many artists and educators have advocated the importance of thinking skills, arguing that visual arts are not just material reproductions, but also reproductions of ideas, human qualities, and expressions of life (Pan, 2010).

The attention to thinking ability in China's art education policy can be traced back to the deepening of the basic education curriculum reform at the beginning of the 21st century, when the Ministry of Education issued the Outline of *Basic Education Curriculum Reform (Trial)*, which explicitly stated the need to cultivate students' ability to think independently and to innovate, aiming to "foster skills in information processing, problem-solving, and lifelong learning" (Ministry of Education of the People's Republic of China [MOE], 2001, para. 3). This shift from imparting skills to cultivating highly educated talents was later reinforced in the *National Outline for Medium and Long-term Education Reform and Development Plan (2010–2020)* (State Council of the People's Republic of China, 2010). The refinement of this policy direction appeared in the Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in 2015, which described aesthetic education as a weak link in the overall education system and called for "guiding students to form the ability to make value judgments and to develop a sense of innovation through art education"

(MOE, 2015). Scholars have noted that traditional art education in China has long been bound by the principle of prioritising technique, whereas the new policy direction is oriented towards core literacy, which positions critical thinking as the integrated expression of artistic perception, cultural understanding, and creative practice (Huang, 2018). This concept is further crystallised in the Opinions on *Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era*, which promotes “artistic problem-solving through project-based learning” and encourages students to “question established paradigms and reconstruct cultural meanings” through cross-disciplinary artistic practice (MOE, 2020).

The implementation of these policies, however, still faces the challenge of aligning with China’s specific cultural context. Yu (2022) argues that Chinese art education needs to balance the dual mission of cultural inheritance and critical innovation. On the one hand, the policy emphasises drawing critical insight from traditional arts, for example, the brushwork dialectic in calligraphy and the role deconstruction in opera. On the other hand, it highlights the need to avoid the simple transplantation of Western critical theories, to prevent criticality from degenerating into antagonism. In this regard, Jiang (2013) highlights the integration of critical thinking into China’s general education reform, arguing that the development of a localised form of critique must respond to China’s specific cultural and institutional context. Rather than simply transplanting Western critical paradigms, the reform emphasises cultivating independent thinking, reflective judgement, and creative problem-solving within a framework that values cultural inheritance and collective learning.

The *Compulsory Education Art Curriculum Standards (2022 Edition)* (Ministry of Education of the People’s Republic of China [MOE], 2022) list dialectical thinking as a core disciplinary quality, indicating that the cultivation of critical thinking in Chinese art education has now entered a systematic stage. The interaction between policy texts and academic research reflects that the logic of its development not only follows global educational trends but also responds to the Chinese tradition of aesthetic education and the demands of modernity, creating a unique link between established practice and innovative possibilities.

In recent years, many art programmes in Chinese universities have actively promoted curriculum reform by introducing courses in art theory and critical writing, with the aim of cultivating students' critical thinking and creative abilities. For instance, renowned institutions such as the Central Academy of Fine Arts and the Academy of Arts and Design at Tsinghua University have incorporated courses on art theory and critical analysis into their curricula to enhance students' critical engagement with artistic work. At the policy level, the Ministry of Education and other departments issued the *Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era* in 2020, emphasising the vital role of aesthetic education in moral development and proposing to cultivate students' aesthetic sensibility, innovative spirit, and practical abilities through artistic learning.

1.3 Terminology

I placed the explanation of visual arts terminology in the introduction because the purpose of Chapter 1 is to establish the research context, scope, and rationale, and to clarify the disciplinary focus of the study for readers who may not be familiar with Chinese higher visual arts education. In contrast, the terminology and conceptualisation of critical thinking are primarily informed by academic literature and form the theoretical foundation of the study. Therefore, I introduce and discuss critical thinking in depth in the literature review chapter to ensure that its definition and key dimensions are grounded in existing scholarship.

1.3.1 Western definition of visual art

There are many categories of art, such as visual art, performing art, and language art., accordingly different researchers provide varying definitions of visual art. These definitions have also developed and changed in emphasis over time. In this section I want to explore what the visual arts means from different perspectives.

Based on Gestalt psychology, Arnheim (1954) defined visual art as a symbolic system that conveys psychological meaning through the organisation of visual forms (e.g., balance, tension), emphasising the active nature of visual cognition. Viewers do not passively receive images but actively construct meaning through the brain's tendency to complete forms. From a phenomenological perspective, Merleau-Ponty (1961)

considered visual art to be a field in which the body is intertwined with the visible world, whose core lies in awakening in the viewer an embodied experience through colour and line. For example, the movement of Van Gogh's brushstrokes is not merely a visual phenomenon but also a suggestion of the trajectory of things.

During the rise of modernist art theory, formalist approaches dominated the mid-20th century. Greenberg (1960) defined visual art as the practice of self-criticism and formal self-discipline through purely visual media (e.g., the flatness of painting, the three-dimensionality of sculpture). He argued that the essence of visual art lies in divesting itself of literary and narrative qualities and returning to the material characteristics of the medium (e.g., the fluidity of oil paint), a perspective that profoundly influenced the Abstract Expressionist movement. In contrast to formalist scholars' emphasis on material media, some conceptual artists argued that any visual object named by the artist can be art. From a socio-cultural and critical perspective, Berger (1972) critiqued traditional art history for sacralising visual art as purely aesthetic objects, emphasising that it has always been intertwined with structures such as class, gender, and colonial history. Building on cultural representation theory, Hall (1997) further defined visual art as the dynamic process by which meaning is produced, circulated and negotiated through visual symbols in a particular cultural context. This perspective challenges elitist notions of art by including popular visual culture, such as street graffiti and advertising images within the category of visual art. In the postmodern context, Krauss (1999) proposed that visual art is a critical deconstruction and cross-media reorganisation of traditional media (e.g., painting, sculpture), arguing that the boundaries of visual art are determined by technologically supported visibility rather than a fixed medium. Photography and installation art, for instance, exemplify how visual art can transcend traditional material constraints. In addition, a more general definition can be found in the *Oxford Dictionary of Art and Artists*, which states that the essential characteristic of visual art lies in the translation of thoughts, feelings, or ideas into a material form that can be viewed (Chilvers, 2009).

1.3.2 Chinese's definition of visual arts

Chinese researchers have also contributed to the definition of visual arts. Zong Baihua (2010), in *Aesthetic Walks*, argued that the essence of Chinese visual arts such as

painting and calligraphy lies in presenting the infinite cosmic vitality through finite visual forms like lines and ink colours. This process follows the *Zhouyi* model of observing objects and taking images, where the artist must go beyond superficial appearances to capture the underlying Tao of the objects. Similarly, Xu Fuguan (1966), in *The Spirit of Chinese Art*, suggested that the highest state of Chinese visual art is the state of mind, which integrates subjective feelings with objective objects, as seen in the literati painting practice of writing spirit through form. In contemporary official discourse, visual art is defined as the practice of expressing thoughts and feelings through modelling methods while also participating in cultural inheritance (Ministry of Education, 2022).

A fundamental difference exists between Chinese and Western views of visual art. In China, the creation of visual art is closely tied to cultural inheritance and emphasises an embodied interaction often described as seeing things with the mind. In contrast, Western visual art tends to emphasise aesthetic autonomy and an analytical decoding of artworks. Xu Fuguan (1966) further systematised the idea of Technique in the Way as the core proposition of Chinese art philosophy. Over time, Chinese visual art education has incorporated Western ideas. When scholars such as Zhou Xian (2007) introduced theories of visual culture into China, the conception of visual art began to change. Earlier, in the 1920s, Lin Fengmian (1927) had already proposed reconciling Eastern and Western approaches, advocating that Chinese visual art should maintain the spirit of expressive brushwork while adopting the realistic techniques of Western modelling to achieve modern transformation through the formalisation of emotion.

In this study, the term visual arts are understood as encompassing painting, drawing and design, with meaning conveyed primarily through visual and spatial forms. These three domains also constitute the principal components assessed in the Chinese national art entrance examination (YIKAO), reflecting a strong emphasis on technical ability and visual representation (Leng, 2015). This definition is crucial because it directly mirrors the disciplinary structure of Chinese higher art academies, where these fields form the core of undergraduate art education. More importantly, it provides a clear orientation for examining the central issue of critical thinking. The processes of observation, interpretation and visual problem-solving within studio practice differ

fundamentally from those in the performing or literary arts, and therefore require distinct and focused investigation. Adopting this definition ensures that the research remains centred on the most relevant domain, while also allowing for a deeper exploration of the uniqueness of visual thinking.

This scope also corresponds closely with the study's data collection. Interviews with students and teachers consistently revolved around their visual works, while the classroom practices observed were likewise centred on studio teaching and the visual presentation of artworks. The pieces created and exhibited by students were all visual products that could be observed, analysed and interpreted, and the artefacts examined within the study also fell within this category of visual arts. Furthermore, the research draws upon examples from Chinese visual art traditions, Western canonical works and contemporary practices to reflect the diverse influences shaping students' artistic learning. In both interviews and classroom observations, students referred not only to Chinese visual culture but also to renowned Western visual art, vividly illustrating how different traditions and styles informed their interpretations and critical choices.

1.4 Significance of the study

Theoretically, this study aims to deepen the understanding of critical thinking within the under-researched context of visual arts in Chinese higher education. Existing literature in general and Western art education consistently demonstrates that engagement in artistic practices fosters dispositions of critical thinking, including interpretation, analysis, and evaluation (Lampert, 2006; James H. Rolling Jr., 2013). Artistic creation and art criticism are often described as cognitive processes that integrate reflective judgement and creative problem solving (Studio Thinking 2; Ellen Winner et al., 2013). However, research specifically examining how critical thinking is conceptualised, experienced, and enacted in the daily teaching and learning practices of Chinese visual arts classrooms remains extremely limited. Traditional Chinese art education has historically prioritised the mastery of techniques and the replication of established models, a system closely linked to the legacy of YIKAO (Leng, 2015). Such an approach often constrains intrinsic inquiry, open-ended exploration, and independent judgement, all of which are central to critical thinking. Scholars have pointed out that although creativity has gained increasing attention in Chinese art

curricula, critical thinking as an explicit pedagogical objective remains underdeveloped (Luo, 2024).

To address this gap, this study is explicitly grounded in Richard Paul and Linda Elder's critical thinking framework (Paul & Elder, 2006, 2014), using it as an analytical structure to examine how reasoning is demonstrated in studio learning and art criticism. In particular, the framework provides a shared language for identifying the components of thinking embedded in participants' accounts and classroom interactions, such as purpose, problems at issue, information, assumptions, interpretation, implications, and viewpoints, and for evaluating the quality of these reasoning processes through intellectual standards such as clarity, relevance, depth, breadth, significance, and fairness. By applying this framework to empirical data in the Chinese higher arts context, the study contributes not only to the transfer of a global critical thinking model into a new educational setting, but also to its contextual refinement by showing how critical judgement is negotiated alongside culturally shaped ways of meaning-making in art learning. Furthermore, it situates critical thinking alongside creative intuition as complementary cognitive modes, offering a more integrated theoretical model to explain how reflective evaluation and imaginative expression operate in the processes of artistic learning and critique.

Practically, this study targets direct implications for educational reform and curriculum design in China. National policy documents, including the Compulsory Education Art Curriculum Standards (2022 Edition), increasingly emphasise the cultivation of higher order thinking skills to support the goals of aesthetic education and innovation. However, the translation of these policy visions into classroom practice is still in progress. By exploring how critical thinking is perceived and manifested, or at times overlooked, in visual arts pedagogy, this study hopes to provide actionable insights for teachers, curriculum developers, and policymakers. Importantly, the Paul–Elder framework also strengthens the practical contribution of the study because it can be translated into concrete pedagogical tools, such as critique prompts, lesson scaffolds, and assessment criteria that make “thinking quality” visible and teachable rather than implicit. For instance, understanding how students engage in reflective dialogue, interpret meaning, critique their own and others' works, and transform personal

experiences into creative themes can inform the design of learning environments such as flipped classrooms that encourage deeper, more active engagement, while also providing criteria for evaluating whether such engagement demonstrates breadth, depth, and reasoned judgement.

Moreover, international studies have highlighted that incorporating collaborative reasoning and structured reflection into art education can simultaneously enhance critical and creative capacities (Ron Ritchhart & David N. Perkins, 2005). Findings from this research could inform the development of assessment methods that move beyond outcome-oriented evaluation to recognise process-based inquiry, encourage interpretive reasoning, and support students in articulating the conceptual foundations of their artistic decisions. These evidence-based recommendations can contribute to a learning ecosystem in which visual expression is meaningfully complemented by critique, reflection, and cross-cultural dialogue, ultimately supporting the long-term goal of cultivating innovative and critically engaged graduates in visual arts in Chinese higher education.

1.5 Research Aim and Research Questions

In this thesis, the context of visual arts is defined not only in terms of disciplines such as painting and design, but also through three interrelated dimensions: the processes of artistic creation and critique, and the pedagogical practices of higher education institutions. This perspective is crucial, as these dimensions together shape how critical thinking is understood and practised in higher visual arts education. Students' and teachers' educational experiences shape their perceptions of critical thinking; their artistic creation and critique provide a platform for exploring its significance; and pedagogical practices reveal how such perceptions are translated into teaching. Building on this significance, the study aims to examine how critical thinking is perceived, understood and enacted in Chinese higher visual arts education, and how it influences students' artistic learning and teachers' pedagogical practices. To achieve this aim, the research is guided by the following questions:

- How are the perceptions of critical thinking among Chinese higher visual arts students and teachers shaped by their educational experiences?

- How do Chinese higher visual arts students and teachers construct their understanding of the significance of critical thinking in art?
- How is critical thinking reflected in the pedagogy of higher visual arts education in China?

These three questions are closely interrelated. The first focuses on participants' perceptions shaped by their prior and current educational experiences. The second moves towards how they interpret the value of critical thinking in artistic creation and critique. The third examines how these perceptions and understandings are enacted in pedagogical practices within higher visual arts institutions. Together, they provide a coherent framework that guides the qualitative inquiry presented in the subsequent chapters of this thesis.

1.6 Structure of the Thesis

This thesis is organised into seven chapters, forming a coherent narrative that progresses from theoretical foundations to empirical exploration and, finally, to practical recommendations.

Chapter 1: Introduction outlines the overall background and rationale of the study. It begins by presenting the current state of visual arts in Chinese higher education and the growing importance of critical thinking within the global discourse on art education. The chapter then highlights the theoretical and practical significance of the study, identifies the research gap, and presents the research aim and questions.

Chapter 2: Literature Review provides an in-depth synthesis of existing scholarship. It first examines psychological, philosophical, and educational perspectives on critical thinking, followed by a review of its application in art, including the relationships between artistic intuition and critical thinking, creative thinking, and art criticism (such as formalist and interpretative approaches). The chapter then discusses existing pedagogical practices and the challenges of cultivating critical thinking in the Chinese context. Finally, it introduces Paul and Elder's (2014) critical thinking framework, which serves as the analytical framework for this study. The chapter concludes by identifying the specific gap in the literature, particularly the lack of qualitative research

exploring how critical thinking is understood and enacted in Chinese higher visual arts classrooms.

Chapter 3: Research Methodology elaborates on the philosophical assumptions and research design underpinning this study. It explains the adoption of a qualitative, interpretivist approach informed by social constructivism to capture the nuanced perceptions and practices of teachers and students. The chapter details the selection of research sites, the recruitment of participants, and the data collection methods, including semi-structured interviews, classroom observations, and the review of student portfolios. It also discusses the procedures for data analysis using thematic analysis, strategies to ensure trustworthiness and ethical compliance, and the researcher's reflexive positioning within the study.

Chapter 4: Perceptions of Critical Thinking presents the first set of findings, focusing on how students and teachers perceive critical thinking in the context of higher visual arts education.

Chapter 5: Understanding the Significance of Critical Thinking in visual arts builds on the perceptions presented in Chapter 4, exploring how students and teachers conceptualise the role of critical thinking in artistic creation, art criticism. It illustrates how participants link critical thinking to the creative process, aesthetic judgement, and the development of a personal artistic voice, highlighting both convergences and divergences between student and teacher perspectives.

Chapter 6: Teaching Practice and the Cultivation of Critical Thinking explores how critical thinking is reflected in classroom practice, including the limitations and challenges of traditional teaching strategies. It also explores some examples of innovative or emerging practices, such as flipped classrooms, which have the potential to cultivate critical thinking in higher visual arts education in China.

Chapter 7: Conclusions and Recommendations synthesises the research findings, linking them to the research questions, theoretical framework, and literature reviewed in Chapter 2. It discusses the theoretical contributions, including a more comprehensive understanding of the relationship between critical and creative thinking in visual arts learning, and provides practical recommendations for curriculum

development, pedagogical reform, and assessment strategies. Finally, it identifies the limitations of the study and proposes directions for future research on visual arts education and critical thinking in the Chinese context.

Chapter 2: Literature Review

In this chapter, I aim to provide an overview of key academic themes in the field of critical thinking in arts education. Initially, I was unsure whether there was a large body of research with sufficient academic rigour to warrant a comprehensive review. First, I extracted keywords from existing research, including “critical thinking”, “visual arts education” and “Chinese higher education”. Then, I collected studies and articles related to the topic through university libraries and online journal databases. However, during my search, I found that research on critical thinking in the Chinese context is still relatively limited, especially in the specific area of visual arts education. In order to provide theoretical support for understanding the role of critical thinking in Chinese higher education, this chapter will clarify its conceptual basis by reviewing the multidisciplinary definitions of critical thinking by first examining the core definitions and differences in the fields of philosophy, psychology, and education (e.g., Ennis, 1985; Facione, 1990; Paul & Elder, 2006); It also distinguishes between concepts and terminology such as critical thinking, reflection, creativity, critique, and critical engagement; reviewing how the field of visual arts education speaks of critical thinking, including its embodiment in creativity, criticism, and artistic judgement (Barrett, 2018; Eisner, 2002). Special attention is given to pedagogical approaches (IBL) represented by Problem-Based Learning (PBL), Inquiry-Based Learning, and others. At the same time, Paul and Elder's (2006, 2014) theoretical framework is adopted to compensate for the applicability and limitations of critical thinking in art education from a global perspective, and to construct a framework for teaching and understanding critical thinking that integrates Western theories and Chinese educational realities for use in Chinese art higher education. See 2.1 for a detailed mind map.

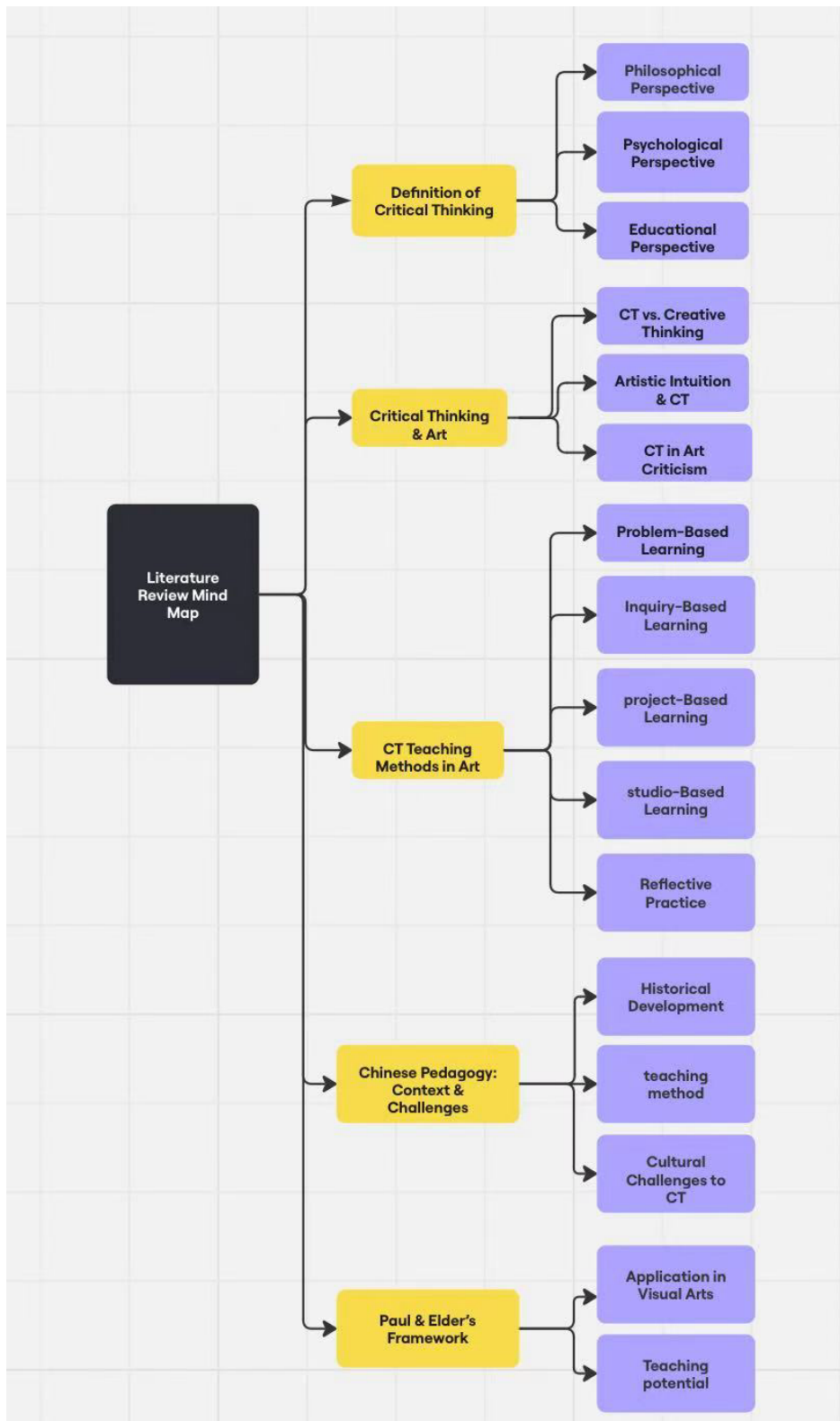


Figure 2.1 Mind map showing the Contents of the Literature Review Chapter

2.1 Different theoretical perspectives on critical thinking

To understand the concept of critical thinking in art and education, it is first essential to explore the various theories and perspectives on critical thinking. Its definition has been widely debated. Lai (2011) in a review of critical thinking literature, notes that research on the subject has primarily emerged from two academic disciplines: philosophy and psychology. Sternberg (1986) however identifies a third strand within the field of education. Each of these disciplines has developed its own distinct approach to defining critical thinking.

2.1.1 Philosophical Perspectives

The philosophical roots of critical thinking are often linked to the Greek tradition, where figures such as Socrates, Plato and Aristotle framed reasoning as a discipline grounded in logic and dialogue (Lai, 2011; Ennis, 1993; Lipman, 2003). From this perspective, critical thinking has typically been described in idealised terms, as a rational process free from bias and emotion, relying on tools such as deduction and induction. Scholars such as Sternberg (1986) have pointed out that these accounts often emphasise how thinking ought to function under perfect conditions rather than how it is practised in everyday contexts. Paul (1992), and later Paul and Elder (2006), sought to bridge this gap by treating critical thinking as the active regulation of thought through elements such as purpose, assumptions, evidence and conclusions. Their framework is supported by intellectual standards including clarity, accuracy and fairness, which translate abstract ideals into practical guidance for teaching and learning. In this way, the philosophical tradition continues to influence contemporary education, though now with a stronger focus on how critical thinking can be fostered in real classroom settings. In general, therefore philosophers view critical thinking as a fundamentally rational faculty centred on logic and involving argumentative analysis, induction and deductive reasoning (e.g., Ennis, 1987; Siegel, 1985).

2.1.2 Psychological perspective

Psychologists, in contrast to philosophers' largely normative accounts of good reasoning, tend to conceptualise critical thinking as a set of cognitive skills and processes that can be operationalised, assessed, and developed through instruction

(Ruscio, 2006). This orientation has shaped a long tradition of standardised measurement, most notably the Watson–Glaser Critical Thinking Appraisal (WGCTA) and the Halpern Critical Thinking Assessment (HCTA).

The WGCTA, first introduced by Watson and Glaser (1980), assesses core dimensions of critical thinking including inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments. It has been widely applied across educational and organisational settings as an indicator of individuals' capacity for logical judgement, and empirical work has reported associations between higher scores and stronger academic or professional decision-making outcomes (Facione, 1990; Niu et al., 2013). Nevertheless, critics argue that the instrument privileges formal reasoning performance and may under-represent metacognitive and contextual features of thinking that shape how judgement is enacted in practice (Tiruneh et al., 2014).

In response to such concerns, the HCTA (Halpern, 2007) combines open-ended and multiple-choice tasks to evaluate how critical thinking is applied in everyday situations, including argument analysis, hypothesis testing, probabilistic reasoning, and decision-making. Evidence suggests that the HCTA is capable of tracking change over time and has been validated across diverse populations (Halpern, 2014). Taken together, these instruments illustrate a distinctly psychological emphasis: critical thinking is treated not only as an ideal of rationality, but as observable performance that can be strengthened through targeted teaching and practice.

A further contribution of the psychological perspective lies in explaining why critical thinking performance is often inconsistent across contexts. West and Toplak (2000) note that critical thinking measures frequently assess whether individuals can resist biased reasoning driven by prior beliefs. Related work on confirmation bias demonstrates that people may scrutinise evidence more rigorously when it challenges their views, yet relax evaluative standards when findings align with their preconceptions (Klaczynski, 1997; Klaczynski et al., 1996, 2000, 2005). Importantly, such bias is not simply a failure of logic; it reflects how belief systems guide attention, interpretation, and memory. Training in critical thinking, however, has been shown to help students recognise and attenuate these tendencies (Klaczynski & Robinson, 2000).

Metacognition provides a central mechanism through which psychology theorises this regulation of judgement. Broadly, metacognition enables individuals to monitor the quality of their reasoning, evaluate evidential adequacy, and adjust strategies when bias or inconsistency is detected (Kuhn, 1999; Efklides, 2006). Flavell's (1979) distinction between metacognitive knowledge, experience, and regulation offers a useful lens for understanding how such monitoring is enacted and revised during reasoning. In educational settings, these principles have informed practical approaches including structured questioning and reflective routines that aim to make monitoring and self-correction more explicit (Paul & Elder, 2006). Empirical evidence supports the value of metacognitive prompting for improving tasks such as argument evaluation (Schraw, 1998), although philosophical critiques caution that an assessment-led emphasis may risk narrowing critical thinking to measurable outputs, rather than sustained dialogical and reflective engagement (McPeck, 2016).

Despite ongoing debate, a broad convergence can be identified across psychological and philosophical traditions. Both frame critical thinking as rationally grounded judgement involving logical analysis, evaluation of evidence, and reasoned decision-making (Ennis, 1985; Facione, 1990; Paul, 1992). Moreover, both emphasise that skills alone are insufficient: critical thinking also depends on dispositions such as open-mindedness and intellectual curiosity, which support the consistent and purposeful application of cognitive skills in real-world contexts (Bailin et al., 1999; Ennis, 1985; Facione, 1990, 2000; Halpern, 1998).

2.1.3 Educational Perspectives

Both philosophers and psychologists agree that critical thinking can be cultivated, and their theoretical contributions have laid the foundations for critical thinking frameworks that continue to shape and evolve within the field of education. Bloom's Taxonomy (1956), a classification of educational objectives, is one of the key theories in educational psychology. It categorises learning objectives into different cognitive levels to help teachers design curricula, set learning goals, and develop higher-order thinking skills in students. The taxonomy places particular emphasis on higher cognitive skills, such as analysing, evaluating, and synthesising. In 2001, Anderson and Krathwohl revised Bloom's Taxonomy, replacing synthesis with creativity as the

highest cognitive level, highlighting the importance of innovative thinking. Piaget's (1972) cognitive development theory suggests that students' cognitive development level must be considered when fostering critical thinking. His theory emphasises that students actively construct knowledge, and that critical thinking evolves through inquiry-based learning. Similarly, Ennis (1987) advocates for the integration of formal logic training, including deductive and inductive reasoning, into education to enhance students' analytical skills. Research has shown that students who develop general problem-solving abilities demonstrate improvements on Piagetian-inspired cognitive development measures. Furthermore, Abrami et al. (2008) examined the impact of instructional interventions on students' critical thinking skills and dispositions, concluding that such interventions positively influence critical thinking development.

Building on these contributions, Paul and Elder (2011) synthesise psychological, philosophical and pedagogical perspectives to argue that critical thinking is a self-directed, self-disciplined and self-improving process. It requires a high degree of clarity, accuracy, relevance, logic, depth and fairness. Their proposed triadic framework of Intellectual Standards, Elements of Thought, and Intellectual Traits provides a systematic structure for the development of critical thinking (Paul & Elder, 2006, p. 6). As this research explores how critical thinking is perceived and developed in higher arts education in China, a framework that addresses both the structure and the habit of mind is particularly valuable, and therefore serves as the theoretical foundation for this study. This will be discussed in detail in Section 2.4. However, as the framework was developed in a Western educational context, this study will also later reflect on how its application may require cultural adaptation for Chinese higher visual-arts education.

2.2 The unique role of critical thinking in visual arts

When discussing the core theme of art and critical thinking, it is important to distinguish several related concepts: critical thinking, reflection, creativity, critique, and critical engagement. In arts education, these terms are sometimes used in place of one another. However, they refer to different, though connected, processes. As noted in Section 2.1, critical thinking is often defined as purposeful, self-regulatory judgement. It involves interpretation, analysis, evaluation, and inference (Facione,

1990). Reflection, in Dewey's classic account, is the active and careful re-examination of belief considering its grounds and consequences (Dewey, 1933). In professional practice, like art creation learning courses, see Section 2.3.5, it includes reflection-on-action and reflection-in-action (Schön, 1983). From a Paul–Elder perspective, reflection supports metacognitive monitoring of one's purposes, assumptions, evidence, and implications. Creativity is often captured by a standard definition: it requires both originality and effectiveness or appropriateness (Runco & Jaeger, 2012). Here, effectiveness means that an idea or outcome works for a purpose or stands up within a given set of criteria. Such judgements depend on the task, the domain, and the wider sociocultural context (Amabile, 2012; Csikszentmihalyi, 1996). Creativity is also often compared with creative thinking. By contrast, creative thinking is more often treated as an iterative process of generating, testing, and improving ideas (Brandt, 2023). Critique (art criticism) refers to a structured practice of making meaning from artworks and evaluating them. It commonly includes description, analysis, interpretation, and judgement (Barrett, 2011; Feldman, 1994). It can be seen as a domain-specific way of applying critical thinking standards to visual evidence and aesthetic argument. Finally, critical engagement emphasises the dialogic, ethical, and socio-political dimensions of critique. It situates critical thinking within participation and dialogue in specific contexts. Learners are seen as co-constructors of meaning, and this is pursued through dialogue and praxis (Freire, 1970; Giroux, 1988; hooks, 1994). In visual culture education, this involves reading images critically within cultural and ideological contexts (Freedman, 2003).

This section focuses on how critical thinking relates to these terms in different aspects of art. First, the subsection on critical thinking and creative thinking compares their complementary roles in visual artmaking. It shows how critical thinking can provide logical scrutiny for creative work, while creative thinking keeps opening new possibilities for ideas and critique. Second, the subsection on artistic intuition explains that intuition is not simply a personal gift. It is shaped by long-term embodied practice and accumulated knowledge, and it can support reasoning in making artistic judgements. Finally, the subsection on art criticism, with reference to formalism and interpretation, shows how critical thinking is used in analysing visual structure and in

interpreting cultural meanings. It also stresses that critique in art involves dialogue, and it has social and historical dimensions.

2.2.1 The Relationship with "Creative Thinking": The Complementarity of the Two

As noted in the previous section, critical thinking has long been framed as rational, analytical thought, and in arts education it is often overshadowed by the emphasis on creative thinking. Yet the two are not in conflict; rather, they are dialectically related and mutually reinforcing. While critical thinking promotes logical analysis and rational evaluation, creative thinking enables divergent and generative innovation (Paul & Elder, 2006). Research over the past three decades has shown that their interaction is a key driver of creativity in artistic practice and arts education. Guilford (1973) defined creative thinking as the ability to generate novel and useful ideas through divergent thinking, characterised by brainstorming and breaking from linear logic to explore multiple possibilities (Runco, 2014). Later studies highlight its non-deterministic and unpredictable nature, where trial and error and paradigm-breaking outcomes may emerge (Sawyer, 2012; Danto, 2006). Given its significance, arts educators argue that structured strategies and tools are needed to cultivate creative thinking, ensuring that students are prepared for both artistic and intellectual problem-solving in contemporary creative industries.

This complementarity becomes clearer when artistic creation is examined as a problem-solving process. Artistic creation involves non-structural problems (Ulger, 2018, para 11). as it is characterised by ambiguity in both the goal and the answer, which may be dynamically adapted throughout the process (Getzels & Csikszentmihalyi, 1977). Additionally, there is no single solution in the creative process, requiring trial and error to explore possible paths (Goldschmidt, 2016), which are inherently difficult to quantify (Dewey, 1934). To address this complexity, researchers have proposed various models that conceptualise artistic creation as an analysable process. Wallas (1926) divided the creative process into four stages, and later, Sawyer (2012, p. 96), building on key models from psychology, developed an eight-stage model for the creative process. These stages include: (1) identifying the problem, (2) gaining domain-specific knowledge, (3) gathering a broad range of

potentially relevant information, (4) incubation, (5) generating ideas, (6) combining ideas, (7) selecting the final idea, and (8) externalising the creative product.

Creative thinking turns intuitive insights into concrete possibilities through divergent associations and the combination of concepts (Guilford, 1973). In this way, it extends artistic boundaries and opens new directions in art. Critical thinking relies on analysis, evaluation, and refinement to make sure that ideas are coherent, that the purpose is clear, and that the concept is well grounded (Facione, 1990). In Sawyer's (2012) eight-stage model of creativity, critical analysis plays a convergent role in the preparation stage. Artists examine the context of their work, gather information, and assess emerging ideas. They narrow the range of options through reflective judgement and evidence-based reasoning. They do not only generate ideas. They also question existing assumptions, assess alternatives, and refine early insights in line with conceptual intention and communication goals. This reflects key aspects of critical thinking, including identifying the central issue or question, selecting relevant information, and making reasoned inferences about meaning and visual impact. These elements are continuously judged against intellectual standards such as clarity, relevance, depth, and logical consistency (Paul & Elder, 2006, 2014).is gathered to narrow down the best solutions and eliminate ineffective options.

Gabora (2002) argued from a cognitive psychological perspective that the creative process involves two distinct modes of thought: the associative mode and the analytic mode. The former corresponds to a more diffuse, associative way of thinking that fosters remote associations and the generation of novel ideas, whereas the latter represents a more focused and causally oriented mode, used to screen, refine, and elaborate initial insights. The field of art criticism similarly highlights the problems that may arise when the balance between these modes is disrupted. Many contemporary artworks have been criticised as "innovation for innovation's sake," privileging visual impact and conceptual novelty at the expense of depth, meaning, and social resonance. This concern resonates with Danto's (1981) claim in *The Transfiguration of the Commonplace* that modern and postmodern art often overemphasises formal breakthroughs, treating innovation as an end rather than a means, thereby undermining art's critical and discursive dimensions. As Gabora (2002)

emphasised, the capacity for variable focus is crucial, the ability to flexibly shift between associative and analytic thought depending on the stage of problem-solving. From this cross-disciplinary perspective, educators must strive to balance the two: entering the critical mode too early may suppress the generation of ideas, whereas remaining too long in the divergent phase may result in creativity that lacks depth and practical impact.

2.2.2 Critical Thinking and Artistic Intuition

In the context of art, art is often understood as an activity centred on intuition and sensory experience. In *Art as Experience*, Dewey (1934) argues that art is not a purely formal object separated from life. Instead, it is closely linked to everyday experience and can be seen as the completion of an experience. Therefore, art making and art appreciation should be grounded in how personal experience is formed, rather than being reduced to logical analysis alone.

Philosophical discussions of intuition support this view. Howell (2013, p. 13) defines intuition as “a direct apprehension of the truth, independent of any physical evidence or the reasoning processes of the mind”. He also describes it as a non-verbal process that operates at an unconscious or super-conscious level, rooted in an empathic connection between the person and certain aspects of reality. In a similar way, Hardman describes intuition as brief, holistic, and immediate, and sees it as a keyway in which human creative potential is released. In his account, intuition is treated as a source of creativity because it grows out of deep personal experience and shapes an individual response to the world. Croce (2017) places intuition within aesthetics and proposes “artistic intuition” as a form of creative intuition. In *The Essence of Aesthetic*, he distinguishes ordinary intuition from artistic intuition. He argues that art does not depend on a special capacity that is separate from everyday mental life. Instead, it relies on a general human capacity for intuition expressed in aesthetic form. For example, in painting this may appear in the organisation of colour relationships, while concepts mainly serve general judgement. This kind of artistic intuition does not rely on logical reasoning but reveals artistic truth now of “expression as creation” (Croce, 2017, p. 14).

However, the subjectivity and perceptual nature of art does not mean that such expression cannot be developed or refined. Like creative intuition, subjective feeling and perceptual expression can become more stable through training. Psychologists often explain this through the cumulative effects of implicit learning (Lieberman, 2000). Merleau-Ponty (2013) also shows how the body, through experience of space and movement, forms a pre-reflective and intuitive understanding of the world (pp. 100–147). He argues that long-term physical practice, such as dance training, can bring together rational knowledge, such as anatomical principles, and sensory experience, such as muscle memory, to form body schemas. These schemas allow dancers to perform complex movements in an intuitive way. Classic research by Reber (1967) also suggests that rational knowledge can become an intuitive resource through repeated exposure and practice, even when people are not actively using explicit reasoning.

Kahneman's (2011) distinction between System 1, which is fast and intuitive, and System 2, which is slow and rational, further suggests that seemingly automatic intuitive responses often depend on long-term training and checking by System 2. In artistic practice, this implies that an artist's subjective expression is often shaped by accumulated knowledge and technical mastery. For instance, a painter's intuitive use of perspective relies not only on visual experience but also on an understanding of Euclidean geometry. For these reasons, artistic intuition and critical thinking are not opposites. They are better understood as two processes that interact throughout creation.

2.2.3 Art Criticism – From Formalism to Interpretation

The previous discussion has primarily focused on the relationship between critical thinking and the creative process in art. This section explores the role of critical thinking in art criticism. Works of art possess intrinsic aesthetic values, which are shaped by the artist's philosophical outlook and cognitive style, influencing the meaning conveyed through artistic expression. Arnheim (1954) highlights the duality of art appreciation, distinguishing between objective and subjective dimensions. The objective dimension refers to the logical relationships between formal elements (e.g.,

balance, contrast), which serve as universal foundations for aesthetic judgement. Meanwhile, the subjective dimension, encompassing intuition, cultural background, personal emotions, and memories, plays a crucial role in shaping the interpretation of art.

Formalism represents the objective perspective in art criticism. Formalists argue that painting should be self-referential, focusing purely on form and composition rather than external influences. For example, Bell (1914, p3) introduced the concept of "Significant Form", suggesting that a work's visual language, such as balance, rhythm, and contrast, evokes aesthetic emotion independently of its cultural or biographical context. From this standpoint, art functions as a closed system, where meaning is determined by internal formal elements rather than the artist's biography or broader social influences.

In this approach, art criticism prioritises logical coherence evaluating whether the rhythm, proportions, and composition follow a discernible pattern and whether colours, lines, and materials adhere to a particular order. By reasoning based on objective visual evidence, this method provides a structured framework for criticism. Such analyses emphasise logical reasoning, evidence evaluation, and sound argumentation, avoiding subjective bias or external interpretation. The analytical steps align with critical thinking skills, particularly deductive reasoning as described by Ennis (1987) deriving specific conclusions from general principles.

The first step in this process is decomposition, where the artwork is broken down into its fundamental visual components (e.g., colour, line, shape). Critical thinking ensures the rigour of this analysis by questioning the logical relationships between formal elements, for instance, whether the composition achieves balance or whether the use of colour contrast adheres to principles of harmony. The next step involves evaluation, assessing how these elements contribute to the overall artistic effect, such as determining whether the work aligns with a particular artistic style (e.g., Impressionism, Cubism, or Abstract Art). The third step involves comparing how composition and colour contrasts in different works affect visual perception and determining whether there is consistency with the artist's other works. Finally, the last

stage of analysis is to summarise and conclude how the formal elements of the artwork interact to create a specific emotional or visual experience. For example, studies in *The German Quarterly* trace how *Guernica* evolved beyond its formal composition to become a universal symbol of political protest (Kopper, 2014). Yet, its widespread deployment also suggests the painting functions as “art propaganda,” recirculated across mediascapes in ways that challenge formalist autonomy (Truett, 2020).

Unlike formalism, semiotics provides a systematic analytical framework for understanding the diversity of meaning in art. It explains the origins of subjectivity, particularly the interplay between cultural codes and personal experience. Semiotics was introduced to the study of art, literature and culture in the mid-20th century. Panofsky (2009) applied the principles of semiotics to the history of art, proposing a method of “iconographic analysis” that emphasises the symbolic meanings in works of art (pp. 26–54). Roland Barthes extends this approach to photography, advertising and film, arguing that the viewer's interpretation ultimately determines the meaning of the symbol. This implies that semiotics is a process of meaning making, and that the visual elements of a work of art are not just aesthetic objects, but also vehicles of cultural and social discourse (Bal & Bryson, 1991). This is particularly crucial for the development of critical thinking as it requires students to constantly question the surface meaning of images and identify the implicit values and ideologies in their social context.

Artists will use art as a tool of social critique, through aesthetic curation as well as semiotics, to give marginalised groups a voice in cultural narratives and enable them to advocate for social justice. The avant-garde movements of the 20th century proved effective in challenging authoritative structures, forcing viewers to question the natural logic of power (Bürger, 1984). Bakhtin’s *Carnival Theory* (1984) offers a key framework for this: folkloric laughter and parody temporarily dismantle the sanctity of dominant discourses by inverting hierarchies, exaggerating bodily features, and mocking authority. This use of visual exaggeration and subversive symbolic strategies has evolved into a systematic mode of critique in contemporary art. Similarly, Banksy’s Street art reflects this approach by satirising political figures and using visual simplification to expose internal contradictions within power structures.

Bal and Bryson (1991), by introducing semiotics into art history, criticised the traditional positivist narrative for its naturalised treatment of the ‘author’ and ‘context’ (pp. 181–185). They emphasise that the production of meaning is always embedded in specific historical contexts and acts of interpretation, and that the so-called “author” is no longer a fixed figure of genius, but rather a narrative function constructed within the discourse of art history.

This semiotic approach to analysing artworks encourages a rethinking of how images operate as points of intersection between social critique, ideological struggle, and cultural politics. In this process, the audience is forced to activate critical reflection when deciphering the artwork’s contradictory imagery. Semiotics highlights the possibility of multiple readings of the same work. Peirce’s theory of the Interpretant posits that the meaning of a sign does not reside within the sign itself but is instead constructed by the viewer’s act of interpretation, shaped by personal experience. For example, in Picasso’s *Guernica* (Museo Nacional Centro de Arte Reina Sofía, n.d.) is one of the most iconic works of 20th-century art. The original painting is accessible at: <https://www.museoreinasofia.es/en/collection/artwork/guernica>, the bull and horse motifs reference his personal iconography, layering the artwork with broader themes of suffering and resistance. A viewer who has experienced war trauma may interpret the distorted human figures in *Guernica* as symbols of fear and devastation.

The role of critical thinking in semiotic analysis extends beyond simple logical reasoning (Vincent-Lancrin, 2019). Semiotics requires us to derive meaning from a work’s visual cues, cultural contexts, and symbolic systems. Metaphor plays a crucial role in this process, as it enables the understanding of one concept in terms of another (Stampoulidis et al., 2019). In this way, semiotics helps to explain how language, visual art, and cultural phenomena communicate complex ideas and emotions through symbols and metaphorical associations. If formalism aligns with deductive reasoning, then semiotics corresponds more closely to inductive reasoning a core skill of critical thinking. By contrast, a semiotic approach frames interpretation as a form of critical engagement. It involves more than evaluating the artwork itself. It places the work within wider contexts, and enters dialogue with audiences and culture, as well as

structures of power, ethical implications, and social histories. It also requires awareness of one's own position and responsibility.

2.3 Pedagogical Approaches to Fostering Critical Thinking in Visual Arts Education from an International Perspective

I conducted a literature review of existing pedagogies related to critical thinking. These include problem-based learning (PBL), inquiry-based learning (IBL), project-based learning (PjBL), studio-based inquiry, and reflective practice. The reason for the study's focus on these pedagogies is that, firstly, they have been widely used in Western education and have been proven by several empirical studies to be effective in promoting students' critical thinking, problem solving skills and creative expression, and secondly, these pedagogies are not separate from each other but form a logical continuum in the development of students' thinking. Problem-based learning provides a context and structure for problem solving, inquiry-based teaching emphasises students' problem solving and independent exploration, and project-based and studio-based learning methods emphasise personalised expression and collaboration in authentic creative tasks, integration of knowledge, and a focus on outcome orientation and practical application. Reflective teaching, on the other hand, helps students deepen their understanding of the problem and self-adjustment in creation and evaluation. This process of problem posing, project practice, and reflective reengineering is a key chain in the formation of critical thinking. Although there is limited research related to art education, many renowned art colleges and universities (e.g. Goldsmiths, RISD, etc.) have integrated these pedagogies into their curricula, resulting in a model of cultural-critical-orientated and socially engaged art teaching and learning, which is worthy of reference. By analysing these approaches, my study hopes to provide Chinese universities with a feasible path to introduce critical thinking at the level of curriculum design and pedagogy.

2.3.1 Problem-Based Learning Approach

Problem-based learning (PBL) typically begins with ill-structured and uncertain problems, emphasising students' active construction of knowledge and self-directed exploration of learning goals (Savery, 2006; Stefanou et al., 2013). Its central function lies in fostering critical thinking, problem-solving, and self-regulation skills. Scholars argue that real-world problems are often complex and unconventional, requiring higher-order cognitive processes such as analysis, evaluation, and reflective judgement (Cropley, 2001; Plucker et al., 2004). Empirical studies across disciplines, including business and medicine, have consistently demonstrated the effectiveness of PBL in enhancing students' critical thinking abilities (Ngai, 2007; Tiwari et al., 2006; Yuan et al., 2008).

Within art education, PBL is particularly relevant due to the inherently complex and open-ended nature of artistic creation. Artistic practice requires learners to interpret contexts, generate ideas, evaluate alternatives, and refine conceptual and aesthetic decisions before presenting work to an audience (Dudek & Cote, 1994). Research suggests that open-ended and exploratory project-based tasks promote deeper analytical engagement and stronger critical thinking skills in art learning contexts (Barrett, 2012; Savage & Fautley, 2013). Through such processes, students are encouraged not only to experiment creatively but also to justify and reflect upon their artistic choices.

The pedagogical foundations of PBL are rooted in constructivist learning theory, which views knowledge as actively constructed through experience and social interaction (Hein, 1991). In this model, teachers act as facilitators rather than transmitters of knowledge, while students engage collaboratively in inquiry and problem-solving (Ferreira & Trudel, 2012). This student-centred orientation aligns closely with the development of critical thinking, as learners are required to question assumptions, evaluate evidence, and negotiate meaning within authentic learning situations.

Ulger (2018) investigated the application of PBL in Turkish art classrooms, where students engaged in scenario-based tasks and brainstorming sessions. Findings

indicated that while PBL enhanced creative thinking, its impact on critical thinking proved limited. As noted in section 2.2.1, critical and creative thinking fulfil distinct roles within the problem-solving process. Open-ended tasks encouraged the generation of divergent ideas yet offered fewer opportunities for systematic evaluation. Critical thinking, while not entirely analytical, necessitates structured reflection and assessment time. Should PBL implementation prioritise rapid problem-solving over sufficient critical dialogue, students may miss opportunities to scrutinise their own or peers' assumptions (Sternberg, 1985). Compared to inquiry-based learning, which places greater emphasis on sustained questioning and knowledge construction, PBL excels at stimulating creativity. However, without structured assessment, it risks developing insufficient critical reasoning capabilities.

2.3.2 inquiry-based learning

Inquiry-based learning (IBL), like PBL, engages students with open-ended and ill-structured problems that require the reconciliation of multiple perspectives (King, 1990, 2002). However, rather than centring on problem outcomes, IBL places greater emphasis on the inquiry process itself, particularly through teacher-guided questioning. By employing heuristic prompts such as “What do you see?” and “What makes you think that?”, teachers encourage students to ground interpretations in visual evidence and engage in reflective reasoning (Housen, 2001). Research suggests that without such structured questioning, students tend to revert to seeking single correct answers rather than exploring alternative viewpoints (King, 2002).

To counter this tendency, scholars have proposed dialogical models of critical inquiry in art education. Geahigan's (1997) framework emphasises the testing and revision of preconceived notions through discussion, comparison, and engagement with controversial works. Similarly, Barrett (2012) and Stewart (1997) highlight evidence-based questioning strategies that foster interpretative dialogue and critical justification. Together, these approaches position IBL as a pedagogical means of cultivating reflective judgement, multiplicity of meaning, and reasoned evaluation.

Lampert (2006) synthesises these processes through three interconnected forms of inquiry: aesthetic inquiry, which develops perceptual awareness through close observation of form and composition; critical inquiry, which involves analytical

reasoning about values, contexts, and interpretations; and creative inquiry, which integrates reflection with artistic production. Empirical findings further indicate that students exposed to inquiry-based art instruction demonstrate significantly stronger critical thinking dispositions than those in traditional instructional settings (Lampert, 2006). This suggests that IBL not only enhances artistic understanding but also systematically supports the development of reflective and analytical thinking.

2.3.3 Project-Based Learning

Project-based learning (PjBL) organises learning around extended, authentic projects that require students to investigate complex problems and produce tangible outcomes (Thomas, 2000). Empirical research consistently demonstrates its effectiveness in promoting critical thinking, metacognitive regulation and creative problem-solving across disciplines (Anazifa & Djukri, 2017; Stefanou et al., 2013; Bell, 2010).

In visual arts education, PjBL supports critical thinking by integrating conceptual analysis, aesthetic judgement and practical experimentation within open-ended projects (Douglas et al., 2018; Hawari & Mohd Noor, 2020). The project cycle of planning, testing and reflection closely mirrors core critical thinking processes. During planning, students identify problems, clarify goals and analyse conceptual directions, aligning with issue identification and purpose-setting (Facione, 1990). The testing phase involves iterative experimentation, requiring justification of artistic choices and continuous evaluation of effectiveness, while reflection consolidates learning through self-monitoring, critique and reasoned defence of decisions. This integrative structure enables students to mobilise theoretical knowledge, artistic literacy and personal experience into coherent creative practice. Through combining art criticism, technical skill and conceptual reasoning, learners transform fragmented knowledge into strategic judgement and meaningful artistic outcomes (Hetland et al., 2013; Barrett, 2018). Compared with traditional instruction, PjBL therefore offers a powerful framework for embedding critical thinking within authentic artistic problem-solving.

However, despite its pedagogical potential, existing research on PjBL in higher visual arts education remains limited. Much of the literature focuses on K–12 or STEM contexts, often treating critical thinking in broad terms without specifying cognitive

mechanisms or instructional scaffolding (Erdogan & Bozeman, 2015). Moreover, while PjBL has been increasingly adopted in Chinese art and design programmes, its localisation and impact on critical thinking development have rarely been systematically examined.

2.3.4 Studio-Based Learning

The design studio has its historical roots in the Renaissance apprenticeship model, later institutionalised by the *École des Beaux-Arts* in the 19th century and reshaped in the 20th century by the Bauhaus and Modernist movements, which emphasised interdisciplinary experimentation and material research (Salama, 2006). This trajectory laid the foundations for the studio-based framework of contemporary design education. At its core, studio-based learning is practice-driven: students acquire knowledge through hands-on creative experience, reflection, observation, experimentation, and synthesis, rather than relying solely on theoretical instruction (Kolb, 1984). This aligns with constructivist learning theory, which emphasises that knowledge is constructed through experience and reflection (Piaget, 1950). For instance, visual arts students often learn concepts such as colour, composition, and perspective more effectively through practical exercises, painting, sculpture, or digital modelling than through text-based explanations (Gray & Malins, 2004; Sullivan, 2010).

Studio-based learning places students in a practical, workshop-style environment where they can experiment with materials, develop projects, and receive feedback from tutors and peers. This approach emphasises learning through doing and sustained engagement with creative tasks. Importantly, it also naturally supports critical thinking: the cycle of producing work, receiving critique, and revising ideas requires students to evaluate their own decisions, consider alternative solutions, and justify their artistic choices. Over time, this iterative critique process cultivates reflective analysis alongside creative experimentation. Brocato (2009) highlights that the studio context treats work as always provisional and subject to refinement, reinforcing the habit of continuous improvement. Through such cycles, students gradually develop both creative fluency and critical awareness (Brookfield, 2011; Barrett, 2012; Moon, 2004). Furthermore, collaborative studio projects encourage dialogue and peer critique,

prompting learners to challenge each other's perspectives and broaden their interpretive frames (Boud & Molloy, 2013; Candy & Edmonds, 2018).

2.3.5 Reflective practice

Project-based, problem-based and studio-based pedagogies emphasise student learning through hands-on practice, collaboration and feedback in authentic contexts. However, while emphasising doing, these pedagogies often fail to adequately guide students to systematically reflect on why and how they do what they do. Reflective pedagogies, as a complementary pathway, emphasise the need for students to question, reconstruct and evaluate their own thinking and judgements in the creative process, which is one of the requirements for critical thinking.

Dewey (1933) was among the first to argue that reflective thinking in education is an active, persistent and purposive inquiry into one's beliefs and knowledge. His view provides the theoretical grounding for later work on reflection in art education. In general, reflective practice is defined as learning from experience to gain new insight into oneself and one's work (Boud et al., 1985; Boyd & Fales, 1983; Mezirow, 1981; Jarvis, 1992). Schön (1987) refined the idea with two key notions: 'reflection-in-action' (thinking while doing) and 'reflection-on-action' (thinking after doing) (p26-29). Hatton and Smith (1995) note that this approach prompts students to revisit the reasoning behind their creative and aesthetic choices, deepening their grasp of artistic practice and meaning making. Through reflection, learners examine their intentions and techniques, identify latent cultural bias, emotional projection or formal limitations, and then revise their work critically (Zeichner & Liston, 2014). In practical studio teaching, educators use spoken or written reflection, such as art journals, process statements and peer critiques to guide students in analysing a piece from several angles, including its expressive effect and social context. This routine fosters deeper and broader thinking and improves their evaluative and dialectical reasoning skills (Thompson, 2008).

Reflective teaching in art can prompt self-inquiry, which in turn strengthens both critical participation and creative expression. Finlay (2008) calls reflection learning through experience to gain new insight into self and practice and shows that it moves

from simple description, through critique, to a reflexive view that asks how social position shapes action. She agrees with Schön that professional work is rarely a neat problem–solution chain; it is messy and shifting. Atkins and Murphy (1993) add three clear moments to this process. First, an uneasy feeling makes the learner aware that intent and outcome do not match. In the studio this might be frustration with a painting or a challenge from peers, echoing Paul and Elder’s call for clarity of purpose. Next comes critical analysis: the student examines ideas, feelings and evidence, weighing structure, meaning, materials and cultural references as Facione (1990) describes. The final moment is a new view, where the learner synthesises insights, re-decides and moves on, matching Ennis’s stress on judgement. True reflection, Finlay argues, questions hidden assumptions and often arises from cognitive conflict in discussion. In practice, students first list what they have done, then, after feedback or failure, test their own beliefs and preferences, and at the highest level ask how identity, status or discipline norms shape their art. Thus, critical thinking grows not only from how they make work but also from how they judge the effects of their choices.

While art education emphasises open expression and multiple perspectives, the current higher art classroom in China still adopts a result-oriented or teacher-evaluation-centred approach to creation and critique, and students often lack the space to independently define artistic issues and make reflective judgements. Against this background, these pedagogies offer a valuable reference framework through which students can question, reason, reconstruct, and develop more critically aware artistic judgements in collective dialogue. Among them, studio-based learning appears particularly compatible with Chinese art education, given its resonance with the long-standing workshop tradition and its cycle of production, critique, and revision that naturally fosters reflective practice. Project-based and problem-based learning also have strong potential to be integrated into design-oriented disciplines, where structured briefs and problem-solving tasks already exist, and could be reframed to encourage deeper enquiry and more open-ended outcomes. In this sense, the key question is not whether these pedagogies can be adopted wholesale, but how they can be selectively introduced, adapted, and localised to respond to the structural and cultural challenges of Chinese higher art education. The next section will therefore turn to China’s educational history, curricular structure, and pedagogical realities to explore in more

detail the dilemmas and possible pathways for cultivating critical thinking in this context.

2.4 The Current Status of Critical Thinking in Chinese Art Education

The previous section reviewed several key pedagogical approaches to critical thinking that can be applied in arts education. However, most existing studies focus on how critical thinking and the arts are integrated within Western education systems. By contrast, there is still limited research on how critical thinking is understood, developed, and used in Chinese higher art education. Given the distinctive features of Chinese cultural traditions, teaching beliefs, and the organisation of arts education, it is necessary to examine how critical thinking develops within this context. This subsection therefore focuses on the design of higher education curricula in China, associated pedagogical approaches, and their historical evolution, alongside key differences in the understanding of critical thinking between Western and Chinese perspectives.

2.4.1 Historical Development of Higher Visual Arts Education in China

Scholarship on Chinese higher visual arts education consistently highlights three interlocking forces shaping its historical development: modes of skill transmission, state ideology, and the selective incorporation of foreign pedagogies. First, early training was dominated by master–apprentice transmission, which prioritised craft competence and stylistic inheritance while restricting access (Clunas, 1997; Andrews, 1994). The move towards modern academies in the early twentieth century introduced curricular standardisation and assessment practices associated with Western academic art, including perspective, anatomy, and systematic drawing instruction (Sullivan, 2010). Second, from the 1950s onwards, art education was strongly aligned with political imperatives. The Soviet Chistyakov system and later Cultural Revolution practices reinforced representational realism and curtailed open-ended interpretation and individual expression, positioning visual production primarily as an ideological instrument (Andrews, 1994; Hung, 2011; Clark, 2010). Third, post-1978 reforms gradually reopened conceptual space for experimentation and expanded the repertoire of legitimate media and genres; by the 1990s, leading academies established

experimental units that engaged contemporary practices such as installation and performance (Wu, 2000).

For the purposes of this study, this literature suggests that the contemporary classroom inherits a dual orientation: on the one hand, technical competence and demonstrable outcomes remain central to teaching and evaluation; on the other, students are increasingly expected to explain intentions, defend decisions, and interpret cultural contexts. This duality provides an important contextual lens for examining how critical thinking is understood and enacted within studio-based learning in Chinese higher visual arts education.

2.4.2 Curriculum design and pedagogy in professional and comprehensive higher education institutions in China

The curricula and pedagogical practices of Chinese higher art education vary substantially according to institutional orientation. Professional art academies (e.g., CAFA and China Academy of Art) typically sustain studio-centred teaching in which students work under the guidance of established professors, whose aesthetic preferences and professional authority strongly shape instructional routines (Clark, 2010). Building on the historical formation discussed in Section 2.4.1, this studio model remains highly practice-oriented and is characterised by demonstration, copying, individual tutoring, and critique. Its persistence reflects both its effectiveness in transmitting technical skills and its symbolic role in consolidating disciplinary norms within the academy (Zhou, 2012).

Compared with Western accounts of Studio-Based Learning that emphasise reflective exploration and dialogic critique (Schön, 1983; Blair, 2006), the Chinese studio model is more outcome-oriented and often gives limited attention to explicit reflexive teaching. Although studio processes can in principle support critical thinking through technical experimentation, reflection-in-action, and peer critique (Schön, 1983; Blair, 2006), this potential is frequently constrained by tutor dominance, prioritisation of technical outcomes, and opaque assessment criteria. As a result, systematic instructional strategies for fostering critical judgement and reflective practice are often underdeveloped (Bray & Qin, 2001).

By contrast, art and design units in comprehensive universities (e.g., Tsinghua and Peking University) have increasingly adopted project-based approaches to connect artistic practice with interdisciplinary inquiry. Project-based learning can encourage collaboration, debate, and critical reflection through real or simulated briefs that engage aesthetics, cultural studies, communication, and industry-facing problem-solving (Douglas & Jaquith, 2009).

In practice, boundaries between these models are becoming more fluid: professional academies have expanded interdisciplinary programmes (e.g., interactive design and digital media), while comprehensive universities continue to maintain studio teaching in traditional domains such as painting and sculpture. However, despite the growing diversity of pedagogical forms, Chinese scholarship has seldom examined studio and project approaches as pedagogical frameworks. Curriculum research remains heavily concentrated on macro-level policy, with relatively little attention to micro-level classroom interaction and teacher–student negotiation (Zhong, 2014). Teachers’ limited engagement in practitioner research, shaped by workload, resources, and professional support further contributes to the scarcity of pedagogical studies in art education (Zheng & Wang, 2014). This study therefore addresses this gap by analysing how teachers and students negotiate pedagogical practices in authentic classroom contexts.

2.4.3 Controversies and Challenges in Teaching Critical Thinking in China

This section discusses the integration of traditional Chinese culture into the teaching of critical thinking. Influenced by the Confucian educational tradition and its interplay with traditional Chinese aesthetics. Such conditions complicate the teaching and practice of critical thinking within Chinese visual arts education, while simultaneously underscoring the necessity for culturally appropriate pedagogical approaches.

A key controversy concerns how critical is defined and recognised across contexts. In many Western accounts, critical thinking is associated with explicit questioning, open disagreement, and argument-based reasoning, shaped by traditions such as Socratic questioning and Enlightenment rationalism (Vincent-Lancrin, 2019). Within this framing, critical thinking “analyses thinking; it evaluates thinking; it improves

thinking” (Paul & Elder, 2006, p. xiii), and Western classrooms often treat public debate as a visible sign of criticality. By contrast, Confucian culture values harmony. Li (2012) argues that harmony is not passive obedience, but a continuing negotiation of moral values to mediate differences. In classroom interaction, this can reduce students’ willingness to challenge teachers or peers directly, with indirect communication or silence more common (Peng & Nisbett, 1999). In Western academic settings, where debate is taken as a marker of critical thinking, such patterns can be misread as lack of ability, and staff may express dissatisfaction with Asian students’ critical thinking (Lun et al., 2010; Durkin, 2008).

These are especially salient in visual arts education, where critical thinking is widely viewed as integral to creative practice. Eisner (2002) argues that “all good work in the arts requires forms of thinking that are subtle and sophisticated” (p. 37), including conceptualising goals, reflecting on thought processes, and articulating artistic judgements. Yet traditional Chinese culture tends to value “a reasonable middle-of-the-road approach” (Peng & Nisbett, 1999, p. 746), and students may avoid culturally or politically sensitive topics. Confucian learning traditions also emphasise respect for and imitation of classical texts, which in visual arts education often supports the transmission of established techniques. This can create cognitive dissonance for students exposed to Western-style training, since they may be encouraged to question aesthetic norms while also being expected to preserve cultural identity (Jiang, 2008). Related research suggests that East Asian students often integrate conflicting viewpoints, whereas Western students more often favour dichotomous, logic-based argumentation (Nisbett et al., 2001).

Teacher authority further shapes how critical thinking can be expressed and assessed. Western visual art education often stresses teacher–student dialogue, with educators acting as guides rather than authorities (Freire, 1970). By contrast, Chinese teachers are traditionally positioned as holders of authoritative knowledge. Bourdieu’s (1993) concept of cultural capital helps explain how visual arts education in China can transmit technique while also reproducing cultural symbolic systems through apprenticeship-style relations (Li, 2003). This may discourage students from

questioning authority and lead them to seek legitimacy within collective identity structures.

At the same time, Confucian culture does not necessarily inhibit critical thinking, but may shape distinct forms of it (Tan, 2017; Li, 2012; Kim, 2003). Tan (2017) identifies reflection “on knowledge content and on the self, the latter ensuring synthesis and integration in an open and autonomous manner” (pp. 71–72). Rear (2017) similarly argues that East Asian reasoning may be more introspective and indirect and may therefore be misread in Western contexts. Students may demonstrate criticality through private reflection or group discussion rather than public challenge (Kirkpatrick & Zang, 2011). Some scholars also treat critical thinking as a universal capacity, with culture shaping its expression (Halpern, 1998). In this light, Chinese visual arts traditions may offer resources for critical engagement, such as blank space and mood, which invite interpretation and co-construction of meaning (Cai, 2002).

Finally, institutional constraints shape the scope of criticality that is feasible in formal education. O’Sullivan and Guo (2010) distinguish between first-wave critical thinking, which focuses on reasoning within dominant frameworks, and second-wave critical thinking, which interrogates underlying ideologies and social structures. In China, education largely prioritises first-wave critical thinking, while explicit critique of political and social systems remains institutionally constrained, limiting opportunities for second-wave criticality in formal education.

2.5 Theoretical framework for this study

Although the literature has explored the ontological concept of critical thinking from the perspectives of philosophy, psychology and pedagogy, and has highlighted its links with creativity, artistic intuition and art criticism, there remains a lack of operational and theoretically robust models for practice. To address this gap, the present study employs the structured critical thinking framework developed by Paul and Elder (2001, 2006) as an analytical tool. Originating in the critical-thinking reform movement in the United States during the 1980s, their model combines philosophical reasoning with insights from educational psychology to produce a systematic structure for rational

enquiry. It aims not only to build clarity and rigour in reasoning but also to cultivate intellectual virtues such as humility, reflection and fairness (Paul & Elder, 2008).

In Figure 2.2, the framework is applied to visual arts. The first layer is the eight Elements of Thought, which map the internal reasoning path of critique and creation: purpose clarifies what the work or critique is trying to achieve; question at issue defines the artistic or interpretive problem; information gathers visual, material, contextual, and historical evidence; concepts provide the theoretical language, such as style, form, symbolism, and genre; assumptions surface taken-for-granted aesthetic beliefs; point of view locates the stance of the maker or critic; inference connects evidence to judgement; and implications trace the broader artistic, cultural, or social significance of that judgement.

The second layer is the Intellectual Standards: clarity, accuracy, relevance, logic, depth, breadth, and fairness. These standards are used to check the quality of thinking throughout the whole process of artistic creation and critique. In the figure, some standards are placed near elements to show where they are often used first, but they are not fixed pairs. In practice, students can apply each standard at every stage to examine whether their reasoning is clear, accurate, relevant, logical, sufficiently deep, open to different perspectives, and fair. In visual art, intuition often shapes the first response, but these standards help test and strengthen the depth of both creative decisions and critical judgement. In this way, critique moves beyond opinion and becomes structured critical engagement.

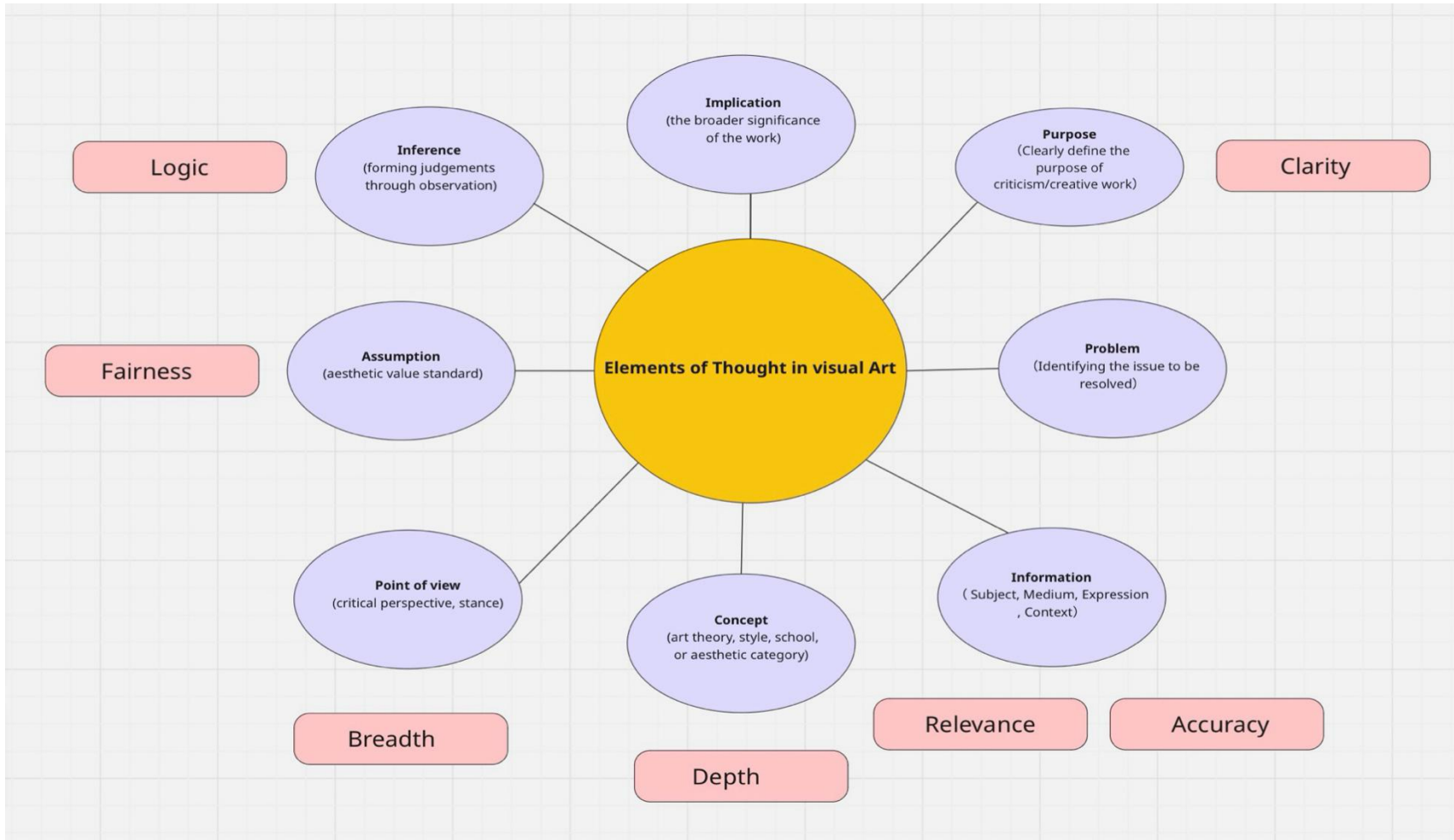


Figure 2.2 Adapted framework of Paul and Elder’s (2001) Elements of Thought applied to visual arts.

2.5.1 The potential of Paul-Elder framework in visual art

This thesis conceptualises critical thinking as a quality-control process for reasoning and understands art criticism as the practice of applying this reasoning within visual arts learning. In art education, criticism should not be reduced to a simple judgement of whether a work is good or bad. As noted in Section 2.2.3, it is a structured cognitive activity that involves analysis, interpretation, and evaluation, and it requires reasoned judgement rather than casual opinion (Geahigan, 1997). Paul and Elder (2006) define critical thinking as “the process of self-directed, self-disciplined thinking” (p. 2). They stress reflective monitoring of purpose, evidence, assumptions, and the quality of reasoning through intellectual standards such as clarity, relevance, accuracy, and logic. This concept offers a strong framework for understanding how artistic judgements are formed, refined, and justified in both criticism and creative practice. Barrett (1994) distinguishes between internal information, such as form, medium, and subject matter, and external information, such as historical background, cultural context, and the artist’s intention. This aligns with the element of information. If criticism is to move beyond impressionistic reaction, information must be selected and interpreted, and then tested against standards of accuracy and relevance.

Barrett (1994) argues that artworks invite people to construct meaning, but interpretation is not arbitrary. It is guided by purpose and constrained by evidence. This closely links to Paul and Elder’s emphasis on clarifying the purpose of enquiry, asking guiding questions, making assumptions explicit, and assessing emerging inferences. At this stage, creativity is essential. Students propose different readings, explore symbolic links, and imagine multiple possible meanings. However, as Paul and Elder (2006) stress, this creative exploration needs reflective constraint if it is to remain academically responsible. When assumptions are tested, concepts are clarified, and claims are checked for coherence, relevance, and evidential support, interpretations become stronger. This helps prevent meaning-making from being driven only by personal bias or established convention.

Critical engagement places interpretation and evaluation within wider social, cultural, and political contexts, which extends the scope of traditional criticism (Elkins, 2013). This process relies heavily on conceptual reasoning. Students use concepts such as

identity, representation, ideology, power, and cultural positioning to analyse how artworks construct meaning. Importantly, critical thinking also requires these concepts to become objects of reflection. Students need to define them precisely, distinguish overlapping meanings, and explain how they illuminate specific visual evidence, rather than applying them as abstract labels.

From this perspective, Paul and Elder's framework offers more than a general theory of reasoning. It provides a coherent way to understand how reflection, creativity, and conceptual engagement work together in art criticism and creative practice. It explains how intuitive responses can be developed into reasoned interpretations, how imagination can generate ideas while still being shaped by rational standards, and how aesthetic judgement can become a reflective, evidence-based practice. For this reason, the framework is well suited to analysing critical thinking in visual arts education, where meaning-making is inherently interpretive, creative, and social.

2.5.2 Theoretical Modelling for Higher Visual Art Pedagogy in China

Paul and Elder's (2006) critical thinking framework were first developed in a Western higher education context. This context tends to value dialogic learning, learner autonomy, and explicit reasoning practices (Brookfield, 2012; Ennis, 2018). However, the core of the framework is to clarify key cognitive processes that are widely seen as central to higher-order learning. These include setting clear aims, questioning assumptions, evaluating evidence, making inferences, and regulating one's own thinking. These abilities align closely with the goals of contemporary higher education reform in China, which increasingly emphasises analytical ability, innovation, and reflective learning (Facione, 1990; Ministry of Education of the People's Republic of China, 2019). From this perspective, the framework offers a solid theoretical basis for strengthening critical thinking in Chinese visual arts education.

At the same time, using the framework requires careful adjustment to fit the realities of Chinese classrooms. In higher visual arts education, teaching still often prioritises technical mastery through repetition, imitation, and standardised assessment of formal accuracy (Chan & Zhao, 2010). While this approach supports the development of basic

skills, it leaves limited room for explicit reasoning, interpretation, and independent judgement. In addition, classroom interaction is often shaped by hierarchical teacher–student relations, which can restrict open dialogue and exploratory critique (Li, 2016; Tan, 2017). These conditions suggest that the framework cannot simply be transferred as a discussion-based Western model. Instead, it needs to be embedded within familiar teaching structures.

One effective way to contextualise the framework is to integrate Paul and Elder’s elements of thought into art criticism practices that are commonly used in Chinese art education, especially the stages of description, analysis, interpretation, and evaluation (Barrett, 1994). Rather than introducing critical thinking as an abstract cognitive theory, each stage of critique can be used to activate specific reasoning elements. During description, students clarify purpose and guiding questions. During analysis, they apply conceptual perspectives and select relevant information. During interpretation, they generate and test inferences. During evaluation, they make criteria and standards explicit. With this alignment, critical thinking becomes a structured part of everyday classroom practice, rather than an added teaching burden. Moreover, students often engage in critical reflection through internal dialogue, meaning negotiation, and the gradual refinement of ideas, rather than prioritising public confrontation or direct debate. The principle of harmony advocates balancing diverse perspectives rather than dissolving opposing viewpoints, while relational thinking situates judgements within socio-cultural contexts. Artistic intuition, rooted in traditional aesthetics, further supplements analytical reasoning by guiding interpretative and creative decisions through embodied experience and perceptual acuity.

From this perspective, adopting Paul and Elder’s framework in Chinese higher visual arts education is a process of pedagogical transformation, not direct transfer. The framework retains its analytical rigour, while also adapting to a culturally grounded learning pattern that centres on structured tasks, guided practice, and step-by-step improvement. Importantly, this approach does not reject technical training. Instead, it places technical skill within a broader process of reasoning, where skill development supports conceptual understanding, interpretive depth, and reflective judgement. This

theoretically grounded integration offers a practical route for advancing critical thinking within the institutional and cultural realities of Chinese visual arts classrooms.

2.6 Conclusion

This chapter synthesises philosophical, psychological, and educational perspectives on critical thinking and places them within the context of visual arts learning. It understands this process as involving critique, reflection, creativity, and critical engagement. Rather than treating these as separate cognitive skills, the chapter explains how they relate in artistic practice to creative thinking, artistic intuition, and art criticism. Reflection enables artists to monitor and refine judgement through repeated making. Creativity generates and tests possible interpretations and forms of expression. Critical engagement extends artistic thinking into wider social and cultural contexts.

The chapter also notes that Western traditions often emphasise critical thinking through explicit dialogue and argument. In contrast, Chinese educational and cultural contexts tend to shape reasoning that is more relational, reflective, and internally regulated. As a result, Chinese art students need to balance multiple knowledge traditions. They must combine technical mastery and cultural inheritance with growing expectations for analytical autonomy. This cultural hybridity highlights both the limits of simply copying Western teaching models and the need for an adaptable theoretical framework that can capture how critical thinking works in practice.

On this basis, this study adopts Paul and Elder's (2006) critical thinking framework as its core analytical structure. The elements of thought and intellectual standards offer a coherent way to examine how, in critique and creative work, aims are formed, assumptions are questioned, information is evaluated, inferences are drawn, and judgements are justified. Importantly, the framework can trace critical thinking not only in explicit classroom talk, but also in reflective making processes and culturally shaped patterns of reasoning.

Although critical thinking pedagogies such as problem-based learning, project-based learning, studio-based learning, and reflective approaches are widely promoted internationally, empirical research remains limited on how critical thinking is enacted

in art education, especially in Chinese higher visual arts classrooms. This study brings Paul and Elder's model into dialogue with concepts of creativity, reflection, and critical engagement. It aims to address this gap and to provide a theoretically grounded lens for exploring students' reasoning within culturally situated teaching practices, as well as for supporting the methodological chapter that follows.

Chapter 3: Methodology

Chapter 3 builds on the literature review to explain the rationale for this study and the development of its core research questions. The chapter outlines the research design and methodological perspectives within a social constructivist paradigm. Guided by this philosophical orientation, I adopted a qualitative approach to explore how visual arts students and teachers in Chinese higher education perceive, develop, and form critical thinking. The chapter details the process of data collection, which included semi-structured interviews, classroom observation, and the appreciation of student portfolios, followed by thematic analysis. This analysis was structured in dialogue with Paul and Elder's (2006) critical thinking framework. Specifically, their eight elements of thought and intellectual standards were operationalised as coding categories, but with modifications to capture culturally embedded understandings of creativity, authority, and studio-based pedagogy. The chapter also discusses the ethical considerations of conducting research in a familiar setting and highlights the reflective role of the researcher in the co-construction of meaning. Finally, it explains how Paul and Elder's framework was refined and tailored to serve the purposes of this study, a point which will be elaborated at the end of the chapter.

3.1 Philosophical assumptions and researcher positioning

3.1.1 Research Paradigm: A Social Constructivist Perspective

The beginning of my research required a clear framework and orientation to help me understand my own position and direction. I acknowledge that philosophical assumptions provide not only direction but also a stance for conducting research (Creswell, 2013). These assumptions influence what I choose to study, how I conduct the research, and how I interpret the findings (Kivunja & Kuyini, 2017). In educational research, the researcher's worldview forms the foundation of the entire inquiry. By articulating my worldview, I aim to offer the reader a clearer understanding of how I perceive the world and how I interpret and act within it. As Lather (1986) asserts, research essentially reflects the kind of world in which the researcher lives, and the kind of world they aspire to live in. This perspective is particularly important in the context of this study, as my exploration of critical thinking in higher education visual

art reflects my awareness of the current challenges facing Chinese art classrooms and my desire to promote a learning environment that encourages reflection and independent artistic enquiry. Following the framework proposed by Lincoln and Guba (1985) and Creswell (2013), I understand that my research is shaped by four interconnected philosophical components: ontology (what I believe about the nature of reality), epistemology (how I believe knowledge is constructed), methodology (how I choose to conduct my research), and axiology (what values I bring into the research process). These dimensions serve as a foundation for the design and interpretation of this study.

Ontology is central to positioning because it concerns the nature of reality and what constitutes the known world (Scott & Usher, 1996; Creswell, 2013). From a constructivist (relativist) perspective, reality is not fixed but socially and culturally constructed. For example, in an art criticism class, students may interpret the same painting differently: one may emphasise personal emotion, another its social value, and a third its cultural or aesthetic significance. Such diversity illustrates that reality is multiple and shaped by experience and context (Berger & Luckmann, 1966; Creswell, 2013). In this study, I do not seek to measure the frequency of critical thinking in classrooms or its causal impact on pedagogy. Instead, I focus on the perspectives of teachers and students, asking questions such as: What does critical thinking look like in the arts? How does it function in pedagogy? These questions highlight individual understandings rather than universal laws (Lincoln & Guba, 1985; Morgan, 2007). Since experiences and backgrounds differ, interpretations of the same phenomenon also vary (Gergen, 1985). For instance, student participants came from different provinces with varied teaching systems, while teachers represented diverse age groups, some influenced by Western models. This heterogeneity shaped their views of critical thinking. Recognising this, I designed semi-structured interviews with open-ended questions to encourage participants to articulate their experiences and interpretations, allowing such diversity to emerge naturally in the data.

If ontology concerns how the world is constructed, epistemology addresses how we understand and interrogate it. Epistemology involves assumptions about knowledge itself (Richards, 2005) and the ways we see and interpret the world (Crotty, 1998),

shaping methodological choices (Scotland, 2012). If knowledge is viewed as objective and measurable, the researcher becomes a detached observer, relying on experimentation or statistical analysis. By contrast, if knowledge is subjective and socially situated, the researcher must engage directly with participants in their contexts. From this perspective, knowledge is constructed through lived experience and interpretation. My study is therefore grounded in the experiences of both me and my participants, shaped by our backgrounds, social contexts, and interpretive processes. I acknowledge that findings are not objective truths but are influenced by my values, positionality, and interpretations. In selecting an epistemological stance, I reflected on the overlap between interpretivism and social constructivism. Both emphasise the explanation of meaning (Cohen et al., 2018). Interpretivism recognises that reality is subjective and that individuals may understand the same phenomenon differently (Weber, 1978). From this perspective, critical thinking has no fixed definition but is experienced and interpreted by teachers and students within specific art education contexts. This allows the study to focus on how students make sense of critical thinking in learning and how teachers describe and teach it. However, interpretivism alone risks overlooking the socio-cultural and institutional forces that shape critical thinking. Constructivism extends this view by highlighting how knowledge and meaning are co-constructed through social and cultural interaction, making it particularly relevant for examining critical thinking in Chinese higher arts education.

As Matthews (1998) notes, constructivist thinking comprises two branches: Piaget's cognitive constructivism, which stresses that individuals construct knowledge through their own experiences, and Vygotsky's socio-cultural constructivism, which emphasises the role of social interaction and cultural context. Piaget (1977) views learning as an internal cognitive process, where meaning is built through assimilation and accommodation to maintain cognitive equilibrium. While highlighting individual agency, this perspective underplays the influence of social and cultural structures. In contrast, Vygotsky (2012) argues that knowledge is constructed and internalised through language, interaction, and social practice. Thought develops from social interaction, and language functions not only as communication but also as a medium of cognition. Knowledge formation thus depends on social structures, cultural resources, and educational contexts. In this study, the understanding and development

of critical thinking is conceived as a social practice, reflected not only in individual cognitive strategies but also in teacher–student interactions, classroom discourse, art criticism, and wider educational systems. I therefore adopt social constructivism as the philosophical foundation. This stance allows knowledge to be seen as multiple, dynamic, and contextual, and directs attention to how teachers and students co-construct critical thinking through dialogue and reflection in specific cultural settings. It also shaped my methodological choices: I employed a qualitative design, using semi-structured interviews and classroom observations to capture participants’ diverse experiences and the social interactions through which their understandings of critical thinking were formed.

There is also a need to consider the moral issue, i.e. value theory, in the research process. This considers the philosophical approach to making value decisions or the right decisions (Edelheim, 2014). This study involves an exploration of critical thinking in higher arts education in China, constructivism emphasises the interactive and collaborative nature of the research process, the data collection process is often a collaborative process where the researcher and the participants work together to construct knowledge (Charmaz, 2014). During the interactive process, researchers need to consider how to respect the rights of participants. For example, in this study, when participants were asked how critical thinking manifests itself in art/practice, several participants would show their portfolios for explanation. There were several legal and ethical issues involved, such as the copyright of the participants' work. Therefore, I needed to obtain the participants' consent to anonymously display their work in the thesis. I will elaborate on this point in the ethics section to address other related ethical issues.

The tendency of constructivist researchers to focus on social justice and how research promotes fair and ethical practices (Kincheloe & McLaren, 2011) is relevant to this study. Critical thinking has become an essential thinking skill and quality in other higher education disciplines in China, such as mathematics and law. However, there has been limited development in areas related to the arts, humanities and social sciences (Luo, 2024). All students should have equal access to quality education, including the development of critical thinking. Therefore, this study emphasises

critical thinking in the arts and its application in teaching and learning. Through education and research, students will acquire critical thinking skills to actively participate in social life, challenge injustice, and express themselves through the arts as positive agents of social change.

3.1.2 Researcher Positionality and Reflexivity

In interpretive research, the researcher's beliefs and experiences inevitably shape the research process (Creswell, 2013). From a constructivist perspective, the researcher's background and worldview influence not only the collection of data but also the way meaning is constructed in analysis (Schwandt, 2000). Reflexivity therefore becomes central: rather than attempting to eliminate my influence, I sought to make it visible and critically reflect upon it (Finlay, 2002; Pillow, 2003).

My positionality is defined by a dual role: I am both a researcher and a Chinese higher education art educator, with prior experience as a student within the same system. This insider positioning gave me shared cultural reference points, a common professional language, and familiarity with institutional norms and constraints. It enabled rapid rapport-building and helped me recognise implicit meanings in participants' accounts, for example, coded references to the YIKAO system, assessment expectations, and classroom hierarchies that might be overlooked by an external observer. However, this insider status could also shape how participants chose to speak. Given the strong emphasis on relational harmony and respect for authority in many educational settings, some participants may have responded more cautiously, offered more socially acceptable accounts, or tailored their narratives to what they assumed I as an educator would value. Students might have avoided direct criticism of teachers or institutional arrangements, while teachers might have emphasised officially sanctioned rationales or policy-aligned explanations, especially when discussing sensitive issues such as assessment pressure, pedagogical constraints, or the limits of critical engagement.

At the same time, my doctoral training in the UK positioned me as an outsider to the taken-for-granted assumptions of Chinese art education. Exposure to pedagogical traditions that prioritise dialogue, questioning, and critical debate encouraged me to step back from familiar practices and to interrogate classroom interactions from a comparative perspective. This dual insider–outsider positioning shaped the questions

I asked and the analytic attention I paid I could appreciate the cultural logic behind students' deference to teachers while also examining how such deference might restrict opportunities for critical engagement. Yet this positioning also carried interpretive risks. My own experiences of exam-oriented art education heightened my sensitivity to conformity and constraint, which could lead me to foreground deficit-oriented interpretations or to read participants' accounts through the lens of my earlier frustrations. As Berger (2015) notes, proximity to the research setting can enrich interpretation while also increasing the possibility of distortion.

These positional dynamics also informed my ethical decision-making. Because I occupy a professional role within the same educational field, the research relationship may carry perceived power distance, even when participants were not my own students. To minimise any sense of obligation or reputational risk, I emphasised voluntary participation, clarified that there were no consequences for declining or withdrawing, and prioritised confidentiality and protection. Care was taken when reporting institutional practices and classroom episodes, where identifiable details could inadvertently expose individuals or departments. In this sense, ethical practice was not only procedural but relational: it required ongoing attention to trust, boundaries, and the protection of participants within a system where "face," hierarchy, and institutional sensitivity may shape what can be safely disclosed.

To address these influences, I engaged in continuous reflexivity throughout data collection and analysis (see 3.3 and 3.4). I maintained a research diary to record assumptions, emotional responses, and moments of resonance or discomfort, treating these entries as analytic signals rather than private reflections. During coding, I wrote reflexive memos alongside emerging codes to mark where my interpretations might be shaped by prior experiences (e.g., assumptions about assessment pressure or pedagogical "constraints"), and I repeatedly returned to participants' wording to test whether the code captured their meaning or my expectations. Where my initial coding leaned toward evaluative judgements, I revisited the data to refine codes into more descriptive, evidence-led categories, allowing the insider–outsider tension to function not as a limitation to remove, but as a resource for producing richer, more transparent, and critically reflexive interpretations.

3.2 Research Design

3.2.1 Rationale for qualitative and exploratory design

This study adopts a qualitative interpretive design grounded in a social constructivist epistemology. The central aim was to explore how critical thinking is understood, developed, and enacted within Chinese higher visual arts education. A qualitative approach was therefore most appropriate, as it allowed for in-depth exploration of participants' meanings, experiences, and perspectives, socially co-constructed through dialogue and shaped by cultural and educational contexts (Schwandt, 2000; Crotty, 1998). Given the limited scholarship on critical thinking in this field, the study was exploratory, not testing predefined hypotheses but seeking to uncover emerging patterns, conceptual frameworks, and situated understandings rooted in participants' narratives and educational practices (Creswell & Poth, 2018). This stance was particularly important for theorising how critical thinking is locally interpreted and enacted within specific institutional and disciplinary environments.

Consistent with these philosophical assumptions, the research process was understood as complex, fluid, and evolving. As Ravitch and Carl (2019) argue, qualitative inquiry requires flexibility, positioning the researcher within the contextual activity of the world. Research is thus not a detached or mechanical process but an interpretive and relational practice. It aims to render lived realities visible through rich description (Chalmers, Manley, & Wasserman, 2009), privileging depth over measurement. This involved dialogue, questioning, listening, observing, and interpreting data in ways that sought to understand, rather than quantify, the phenomenon under investigation. Accordingly, the study prioritised the subjective experiences, social interactions, and situated meaning-making of participants (Creswell, 2013), with particular attention to how critical thinking is constructed in the cultural and institutional context of Chinese art education. Underpinned by a social constructivist framework, it assumed that knowledge is not fixed or objective, but jointly constructed through social interactions, cultural practices, and educational experiences (Vygotsky, 1978).

This epistemological stance called for methods that foreground interaction, interpretation, and depth, including semi-structured interviews, classroom

observations, and contextual artefact analysis. Rather than measuring critical thinking as a discrete cognitive skill, the aim was to capture how it is formed and expressed through classroom dialogue, teacher–student interaction, and engagement in artistic critique. Finally, as Silverman (2013) reminds us, qualitative research is not merely about collecting personal stories, but about producing trustworthy and meaningful interpretations through systematic and reflexive inquiry. By embracing the interpretive nature of qualitative research, this study sought to illuminate how individuals within Chinese visual arts institutions constructed meaning around critical thinking, and how those meanings were embedded within broader cultural and pedagogical contexts.

3.2.2 Overview of Multi-Method Strategy

In line with a constructivist paradigm, this study adopts a multi-method qualitative strategy that emphasises the co-construction of meaning and the dynamic nature of knowledge generation. The primary methods included semi-structured interviews with educators and students, non-participant classroom observations, and, where applicable, analysis of student artworks and reflective texts. These methods were not applied in isolation but operated in a flexible cycle, with each stage informing the next. As Charmaz (2014) notes, data collection and analysis are not neutral or linear but shaped by the researcher’s interpretations and positionality. Insights from teacher interviews informed the design of student interviews, drawing attention to issues such as power dynamics, language use, and emerging themes. In turn, the perspectives gathered from both groups guided classroom observations, enabling more contextualised engagement with pedagogical practices. This iterative approach reflects Maxwell’s (2013) concept of a flexible research design, where the researcher responds to emergent findings, and Srivastava and Hopwood’s (2009) view of qualitative research as reflexive iteration, in which data collection, analysis, and theory development evolve together. Rather than treating methods as discrete steps, this study employed a recursive model where different data sources mutually informed and enriched one another (see Figure 3.1).

Triangulating multiple sources provided a fuller understanding of participants’ perspectives. Interviews elicited subjective experiences and attitudes toward critical thinking, while the comparison between student and teacher accounts highlighted both convergence and divergence. Subsequent classroom observations revealed how

pedagogical practices and student engagement unfolded in real time, complementing or challenging interview narratives. In addition, students who shared artworks offered visual insights into their thinking processes. This layered strategy enhanced the trustworthiness of the study (Creswell & Poth, 2018), not by removing subjectivity, but by making the interpretive process transparent, reflexive, and theoretically grounded.

The data collection unfolded over Nine key stages: (1) Recruitment of participants; (2) obtaining informed consent from participants; (3) refining the interview questions based on the research aims; (4) conducting interviews with teachers to explore how they define and cultivate critical thinking, often in relation to institutional and cultural influences; (5) engaging in reflective review of teacher interview data; (6) conducting interviews with students, incorporating insights from the earlier teacher phase; (7) collating and thematically organising the interview data; (8) observing classroom teaching and student interaction to witness how practices discussed in interviews manifested in the real classroom; (9) transcribing and annotating the interview data in Chinese, and translation of quoted data into English.

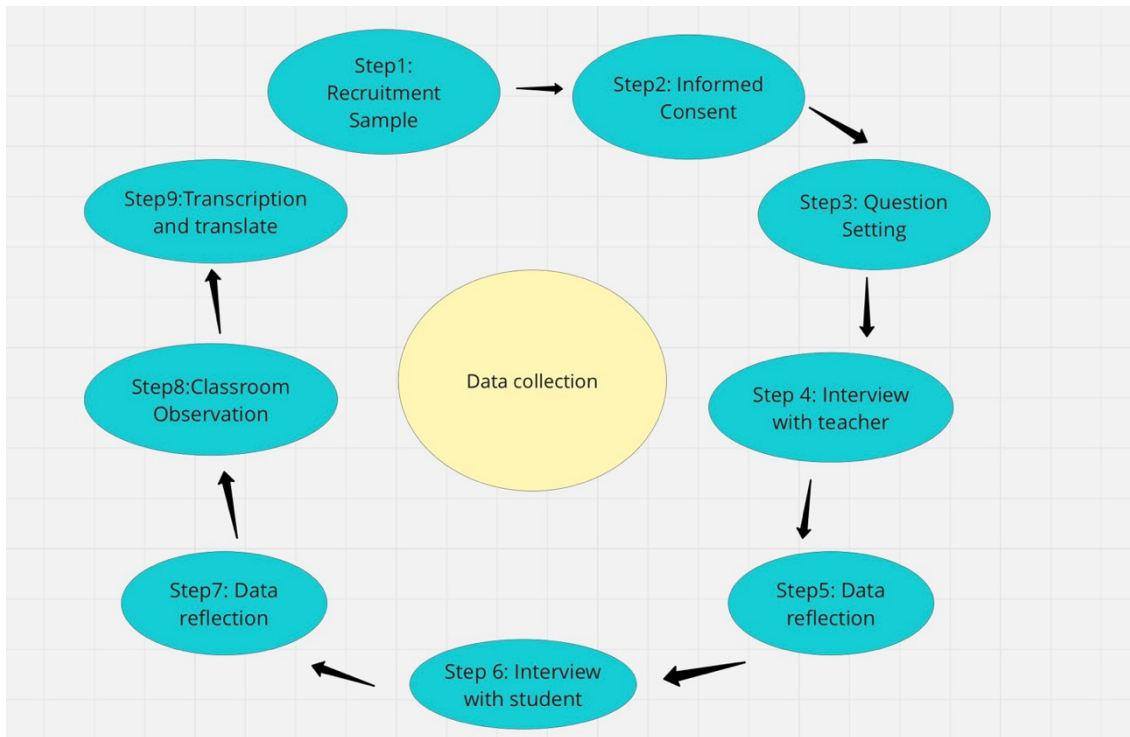


Figure 3. 1 Mind map created by the researcher to visualise the data collection process.

3.3 Data Collection-A Reflexive Process

The aim of the study was not to generalise or summarise, but to attempt to gain a deeper understanding of the role of critical thinking in higher education pedagogy. Participants were required to be able to provide a wealth of information to understand the phenomenon under study. Purposive sampling, also known as non-probability sampling (Kothari, 2004), facilitates engagement with the rich context and provide detailed descriptions of specific populations and locations (Ravitch & Carl, 2019). This includes the fact that they have a certain amount of experience, are knowledgeable about a particular phenomenon, live in a particular place, or some other reason. Random sampling was not appropriate for this study because it might include individuals with little experience or insight into the phenomenon, which would limit the depth of understanding required in qualitative research. Purposive sampling allowed me to consciously select individuals and/or research settings to help gain the information needed to answer the research question to achieve a complex, multi-

perspective understanding. In accordance with the principles of purposive sampling, the study site and participants were carefully selected to reflect characteristics relevant to the focus of the study (Ritchie, Lewis, & Elam, 2013). Therefore, this section discusses in detail the selection of the study sites, and participants.

3.3.1 Site Information

This research was conducted in a comprehensive university in central China, referred to as Northern University (a pseudonym) or “the research site” to ensure anonymity. All identifying details have been removed. The institution was selected as the sole site for both practical and methodological reasons. My prior academic and professional experience there provided deep familiarity with its curriculum, departmental operations, and institutional culture, which facilitated timely access to participants and classes (Merriam & Tisdell, 2016). For example, I already knew which modules were most suitable for classroom observation and was able to identify relevant teachers and students quickly. Existing relationships also supported smoother participant recruitment, rapport-building, and informed consent, contributing to the depth and richness of data (Creswell, 2013). In interpretive research, such proximity is often an asset, enabling context-sensitive engagement with participants’ experiences. My position as an “insider–outsider” familiar with the site but no longer embedded in its daily operations created a distinctive epistemic stance (Berger, 2015). As Mercer (2007) notes, occupying both perspectives allows the researcher to draw on trust and contextual knowledge while maintaining critical distance. This positionality required continual reflexivity to balance empathy with analytical rigour and to remain alert to power dynamics, particularly within teacher–student interactions and classroom discourse.

The geographical and cultural context of the university also shaped its selection. Situated in the Central Plains region often regarded as China’s cultural and political heartland the university represents a mainstream model of higher education in non-metropolitan settings. In contrast with eastern coastal institutions, it retains more traditional pedagogical practices, such as teacher-led, lecture-based classes that prioritise technical skill training over open discussion. These features provide insights into nationally typical patterns of visual arts education. The regional culture also

influences students' and teachers' conceptions of learning, authority, and critique, all of which are integral to critical thinking (Zhang & Watkins, 2007).

As a comprehensive university, the institution embeds art education within a broader academic structure, unlike specialist art colleges. Its emphasis on general education, cross-disciplinary exposure, and aesthetic development offers fertile ground for examining how critical thinking is interpreted and enacted across diverse curricular contexts. Although the art school may not have the disciplinary specialisation of elite academies, its integration into a wider educational ecosystem presents distinct advantages: students engage with a range of subjects beyond art, potentially fostering broader intellectual engagement and flexibility, key attributes of critical thinking. Moreover, the university's stated philosophy highlights aesthetic sensitivity, critical awareness, and creative individuality, aligning directly with the aims of this research.

3.3.2 Sampling Strategy and Participant Recruitment

Teacher participants

Prior to data collection, I consulted the Head of Department at the university, who expressed support and agreed to facilitate the study. Having previously studied and worked at this institution, I was already familiar with the faculty structure and aware that the art department focuses on two main areas within the visual arts: graphic design and fine art. Participants were therefore purposively sampled from these two disciplines. Following Patton's (2015) purposive sampling strategy, priority was given to teachers with substantial experience in art education to ensure meaningful insights into how critical thinking is understood and practised in teaching. To enhance diversity, I also sought participants of different genders, age groups, teaching experience, and disciplinary backgrounds (Robinson, 2014).

Email invitations were sent to eight undergraduate teachers, four from graphic design and four from fine art outlining the purpose of the study, the interview format, and proposed scheduling. Six responded positively and agreed to participate; two fine art teachers declined due to illness related to COVID-19. A reminder email was sent one week later to non-respondents, but no further attempts were made.

In total, six teachers participated and signed informed consent forms (see Appendix 3,4). Before signing, I explained the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time. Of these, four were from graphic design and two from fine art. Although this created some imbalance in disciplinary representation, proportional sampling was not the aim. Instead, the emphasis was on developing an in-depth understanding of how critical thinking is conceptualised and practised across different teaching contexts. Table 3.1 presents an overview of the participating teachers' characteristics, including gender, age, years of teaching experience, primary teaching focus, and their contributions to the research as reflected in the interviews. For confidentiality, Teachers are referred to using codes (GD = Graphic Design; FA = Fine Art) followed by a number. For example, GD1 refers to the first Graphic Design teacher participant, and bear no relation to participants' real identities.

Table 3.1 Visual Art Teacher Participant Information

Name Code	Gender	Age Group	Teaching Experience	Teaching Focus or Specialties	Contribution to the Study
GD1	Female	40–49	20 years	Graphic design history; curriculum reform; Associate Professor	Offers insights on the transition of Chinese graphic design education
GD2	Female	40–49	15 years	Illustration; encourages student autonomy and participation	Highlights student-centered classroom approaches
GD3	Male	30–39	No more than 10 years	Information design; promotes creative thinking	Brings a unique and innovative teaching approach
GD3	Male	20-29	No more than 10 years	Final-year project supervision	MA from Manchester School of Art, UK, Provides a cross-cultural perspective on critical thinking

The four teachers in the Graphic Design programme all had extensive teaching experience, though they differed in age and cultural background. The first, GD1 (female, 40–49), an associate professor with 20 years of experience, had witnessed the reform of graphic arts education in China from decorative design to graphic design marking a shift from decorative painting to the communication of information and concepts through visual elements (Li, 2008). Her perspective therefore incorporated valuable insights into educational reform. The second, GD2 (female, 40–49), with 10 years of teaching experience, specialised in illustration and encouraged student autonomy, placing strong emphasis on active classroom participation. The third teacher, GD3 (male, 30–39), has won several national university art teacher competitions and is regarded as one of the most promising young faculty members. His teaching in information design adopts a highly personal approach: rather than assigning directive tasks, he requires students to conduct their own field research to identify problems and develop design propositions. For example, in a unit on urban visualisation systems, he asked students to investigate information confusion in city spaces and propose visual improvements based on their findings. He stresses that design is not merely a combination of forms but a critical transmission of information, encouraging students to question established image norms and cultural symbols. This practice helps students build skills in expressing opinions, evaluating design logic, and reframing problems, offering this study a critical perspective on design learning. The fourth participant, GD4 (male, 20–29), completed a master's degree at Manchester School of Art in the UK, as I did. In guiding students' final projects, he explicitly promoted the use of critical thinking in discussing subject matter, thereby contributing a culturally diverse perspective to the study.

There were far more graphic design teachers than fine art teachers at this university, so recruitment of fine art teachers was limited, and only two teachers volunteered to participate in the interviews. (See table 3. 2). Both teachers had rich teaching experience. The first male teacher FA1 (40-49 years old) mainly taught oil painting courses and had participated in many art competitions. He was well known for his fantasy-techno-wasteland style. He encouraged a close relationship with the students on the course, and valued student autonomy. The other younger female teacher FA2 (20-29 years old) had a rich work history, having been a high school art teacher before

entering university teaching. Her experience could provide a different perspective for this study.

Table 3.2 Fine Art Teacher Participant Information

Name Code	Gender	Age Group	Teaching Experience	Teaching Focus or Specialties	Contribution to the Study
FA1	Male	40-49	15 years	Oil painting, mixed media	Encourage students to express themselves critically
FA2	Female	20-29	No more than 10 years	Sketching	High school teaching experience

Student Participants

The selection of student participants followed the same purposive sampling strategy used for teachers; prioritising individuals able to provide rich insights into the research questions (Patton, 2015). The criteria included:

- enrolment in art and design programmes.
- prior experience in courses such as art criticism, design theory, or creative research.
- strong verbal communication skills to articulate experiences and perspectives.
- voluntary participation with signed informed consent.

Students who met these criteria were generally in their third or fourth year. In Chinese higher education, first-year students undertake general education, and second-year students are still beginning their specialist training, limiting their disciplinary experience. Although I initially worried that final-year students would be too focused on graduation, applications, or employment, art department staff encouraged me to recruit them, stressing that the research could provide insights into critical thinking at a decisive stage of their academic development. Based on this advice, I selected fourth-year students as the main interview cohort. To minimise disruption, I confirmed their schedules with staff and arranged interviews around their academic commitments. Recruitment was conducted through the department's internal mailing system and peer recommendations, with attention to diversity in gender, disciplinary focus, and course type. Several challenges arose during recruitment. Of the 20 students contacted via email, six declined for reasons such as being off-campus, reluctance to be recorded, or uncertainty about the study. Two students who initially agreed later withdrew after contracting COVID-19. In mid-October 2022, the university entered lockdown until early December, suspending physical access to the campus and limiting recruitment opportunities. These circumstances reduced willingness to participate and necessitated a revision of strategy.

Consequently, I adopted a snowball sampling approach, whereby initial participants referred peers for potential inclusion (Noy, 2008). Snowball sampling is particularly effective for populations that are hard to access or hesitant to engage with formal research processes, as it relies on trust between researcher and participant. Such trust not only encourages openness during interviews but also motivates participants to recommend others, thereby expanding the sample while maintaining contextual coherence (Goodman, 1961; Atkinson & Flint, 2001). In this study, snowball sampling proved effective in overcoming access barriers during the pandemic and enabled the collection of relevant and rich qualitative data.

This study interviewed 12 fourth-year undergraduate students in visual arts in Chinese higher education, aged between 20 and 25. Participants are referred to using codes (GD-S = Graphic Design Student; FA-S = Fine Art Student) followed by a number (e.g., GD-S1 refers to the first Graphic Design student). The cohort comprised six Fine

Art majors and six Graphic Design majors. All had undergone the YIKAO stage, which exposed them to systematic art training and marked their transition from an early interest in painting to formal study. All participants were fully informed about the interview process and signed consent forms (see Appendix 1, 2). Some had engaged with painting, illustration, or colour expression from an early age through competitions or extracurricular work, while others attributed their artistic direction to family influences, shaping opportunities for personalised development. Creative interests varied across disciplines. Fine Art students often drew on personal emotions, cultural memories, or social issues, producing works such as traditional Chinese painting, illustrations, or socially themed pieces. By contrast, Graphic Design students focused more on visual communication and practicality, with interests ranging from cultural and creative product design to packaging. Some preferred darker, more reflective visual styles, while others drew inspiration from reading and broader cultural sources. This distribution of interests enabled comparative insights into how disciplinary paths shape students' thinking styles.

Regarding critical thinking, most students reported only a vague or superficial understanding prior to the interviews, typically drawn from incidental classroom references or course materials. A minority recognised links between critical thinking and creative reflection, communication, or peer interaction. Overall, students viewed critical thinking as complementary to creative thinking, both enhancing their work through self-reflection and stimulating new ideas through dialogue with teachers and peers. These varied backgrounds and perspectives provide a diverse sample for examining how critical thinking is embodied in art criticism and creative work, and how different educational experiences and disciplinary orientations shape its development (see Tables 3.3 and 3.4).

Table 3.3 Fine art student Participant Information

FA-S1	Male	20-25	Year 4	Childhood art interest; YIKAO-trained; likes illustration; Had heard of critical thinking but not familiar
FA-S2	Female	20-25	Year 4	Childhood art interest; YIKAO-trained; family limited individual artistic pursuit; no prior critical thinking awareness
FA-S3	Female	20-25	Year 4	YIKAO-trained; family limited artistic individuality; no prior critical thinking awareness
FA-S4	Female	20-25	Year 4	YIKAO-trained; enjoys exhibitions; offers critical thinking perspective in art criticism
FA-S5	Female	20-25	Year 4	Childhood art interest; YIKAO-trained; sees gap between casual drawing and training; Familiar with the term, not the concept
FA-S6	Female	20-25	Year 4	Childhood art awards-built confidence; YIKAO-trained; observes social issues and discussions to enhance thinking

Table 3.4 Graphic design student Participant Information

GD-S1	Female	20-25	Year 4	YIKAO-trained; prior critical thinking awareness; views creative and critical thinking as complementary
GD-S2	Female	20-25	Year 4	YIKAO-trained; prefers dark creative themes; reading diverse views inspires reflection
GD-S3	Male	20-25	Year 4	YIKAO-trained; enjoys cultural packaging design; views critical thinking as communication and self-reflection
GD-S4	Female	20-25	Year 4	YIKAO-trained; enjoys cultural design competitions; no prior critical thinking awareness
GD-S5	Female	20-25	Year 4	YIKAO-trained; developed interest in colour studies; heard of critical thinking in class but no in-depth understanding
GD-S6	Female	20-25	Year 4	Family engaged in arts; enjoys modern design; prior critical thinking awareness from teacher-recommended literature

3.3.3 Semi-structured Interviews

As noted in the previous subsection, this study examines how teachers and students understand, experience, and practise critical thinking in Chinese higher visual arts education. While I also have personal experience of art education, participants' life experiences were likely to differ from mine, making it necessary to enter their subjective worlds to understand their feelings, thoughts, and beliefs, as well as the meanings behind their behaviours (Cohen, Manion & Morrison, 2018). Such in-depth enquiry cannot be adequately captured through quantitative methods. Interviews therefore offered an open and inclusive channel, enabling participants to describe their educational experiences in their own words and providing the rich, thick descriptions needed for this study (Patton, 2015). Grounded in a social constructivist stance, the study assumes that knowledge and meaning are not fixed but dynamically constructed through interaction, language, and cultural context (Vygotsky, 1978; Charmaz, 2014; Creswell & Poth, 2018). During interviews, I was therefore not merely a questioner but a co-participant in dialogue. Meaning was co-constructed with interviewees rather than simply extracted, making it essential to create an environment that encouraged self-expression, reflection, and shared meaning-making.

Structured interviews, though consistent, are often too rigid for exploring complex experiences: all participants are asked identical questions, leaving little room to capture contextual nuance, and closed-ended formats limit expression (Charmaz, 2014; Merriam & Tisdell, 2016). In contrast, unstructured interviews allow greater exploration of subjectivity but can lack focus, straying from central themes (Kvale & Brinkmann, 2015). Semi-structured interviews offer a balance, combining a pre-determined framework of core questions with the flexibility to probe emerging issues. This format ensured interviews remained centred on the research aims while retaining the openness of dialogue (Cohen, Manion & Morrison, 2018).

All interviews in this study were conducted one-to-one and in Mandarin Chinese to ensure that participants could express their views more naturally within a familiar linguistic and cultural context. Interviews with teachers were held in school staff offices and lasted approximately 45 to 60 minutes. Scheduling was based on participants' availability and preferences. Due to the impact of the pandemic, five out

of six teachers were interviewed before the lockdown, while one interview was conducted online due to restrictions. In contrast, students were confined to their dormitories and unable to meet in person because of COVID-19 regulations. As a result, all student interviews were conducted via telephone. These were scheduled at mutually agreed times and lasted approximately 30 to 45 minutes, similar in duration to the teacher interviews. Prior to the interviews, I emailed both teachers and students a digital copy of the participant information sheet and informed consent form (see Appendix 1,2,3,4), confirming permission for audio recording and explaining how the data would be used.

Although telephone interviews limited access to non-verbal cues, I paid close attention to changes in tone and pauses to interpret emotional shifts, using follow-up or clarifying questions when necessary. In addition, several students submitted images of their creative works via email prior to the interviews, which were used as visual prompts during the discussions. Written permission for the use of these materials was obtained in all cases. Ethical considerations related to this process are discussed in Section 3.4.5. The use of telephone interviews did not significantly affect the quality of the data collected. On the contrary, telephone interviews contributed positively by protecting participants' identity and avoiding the exposure of their appearance, while also providing a more comfortable space for expression and increasing response rates (Cachia & Millward, 2011; Novick, 2008).

Before each interview, I began with a brief informal conversation to build rapport and ease potential anxiety, particularly among student participants who tended to appear more reserved during recording. I asked light questions such as "What's your favourite subject?" "How do you feel about your college life?", before gradually transitioning to the core topics of critical thinking in art education. This conversational opening helped to create a relaxed atmosphere and encouraged more open engagement throughout the interview. The interview questions were designed based on the three core research questions of this study and were systematically structured to explore how teachers and students within the context of higher visual arts education understand, practise, and construct critical thinking. The interview content was organised into three thematic sections, each focusing on: (1) how teachers and students define critical

thinking and perceive how it is acquired; (2) how critical thinking is reflected in artistic creation and art criticism; and (3) how critical thinking is manifested in pedagogy and what strategies exist for its enhancement. This structure was intended to ensure that the data collected could directly address the research questions. In addition to this, the interview questions were formulated according to the research objectives and the literature review, using a flexible and adaptable approach to explore the interviewees' perspectives in depth (Mason, 2002). For example, in section 2.4.3, several studies mentioned the influence of Chinese culture on critical thinking, so I set up similar culture-related questions, such as:

- Have you experienced a foreign classroom?
- What do you think is the difference between Chinese and Western classrooms in terms of their attitudes towards 'asking questions' or 'criticising ideas'?
- In your classroom, are students free to express views different from those of the teacher? What are your views on this

(See Appendices 5,6 for complete student and teacher interview questions.)

Qualitative research is inherently reflexive and iterative (Srivastava & Hopwood, 2009). This study therefore adopted a recursive design in which data sources informed and enriched one another over time rather than being treated as discrete steps. Interviews were conducted in two stages to reflect this process. The first stage focused on teachers' understandings of critical thinking and how they aimed to cultivate it in their classrooms, including whether their approaches were shaped by cultural, institutional, or systemic influences. These conversations provided an initial framework for understanding the instructional context of critical thinking. The second stage explored students' experiences and perceptions: how they interpreted critical thinking, whether they viewed it as important in their art education, and which teaching styles they believed best supported its development. Students were also asked whether perceptions of critical thinking differed across artistic disciplines.

The second-stage interviews were informed by insights from the teacher interviews, enabling a dynamic and responsive approach. For instance, when teachers mentioned using flipped classrooms to foster critical thinking, this was incorporated as a prompt

in student interviews: “Some teachers mentioned using flipped classrooms to help students develop critical thinking. Have you had similar experiences? What are your thoughts on this approach?” This dialogical relationship between the two sets of interviews generated a more layered understanding of how critical thinking was understood, promoted, and experienced within the university’s art education context. By weaving together perspectives from both educators and students, the interview process supported the study’s interpretivist and constructivist aim of capturing multiple, co-constructed realities.

During the interviews, I did not rigidly adhere to a predefined question list. Instead, I responded to participants’ answers and allowed the conversation to develop organically. When participants struggled to articulate their thoughts, I occasionally rephrased questions or offered tentative interpretations, which they were free to accept, reject, or revise. While interviews with both teachers and students followed the same overall thematic structure, slight adjustments were made to reflect their respective roles. For example, teachers were asked: “What teaching techniques or strategies do you think would enhance critical thinking?” In contrast, students who might not be familiar with specific pedagogical terminology were presented with a more accessible version: “Do you think current art education encourages or discourages critical thinking, and in what ways?” Additionally, when participants gave vague or generalised responses, I followed up with probing questions or paraphrased their statements to prompt clarification or elaboration. For instance, when one student said, “I like Mucha’s style,” I asked, “Are you referring to the themes he explores or the way he expresses them visually?” This flexible and responsive approach reflects the advantages of semi-structured interviewing, particularly in fostering authentic dialogue and co-construction of meaning.

During the interview process, I became aware that my questioning style and feedback at times influenced the direction of responses. For example, when I highlighted distinctions such as creative style versus mode of expression, students tended to elaborate more on those aspects while overlooking others. Similarly, in paraphrasing for clarification, I may have unintentionally led participants to frame their views of critical thinking in more rational or theoretical terms rather than in their everyday

language. For instance, when a student said, “online, we sometimes question whether certain information is true,” I replied, “So you mean critical thinking is, to you, about questioning?” Although intended as a reflective prompt, this may have encouraged the student to adopt questioning as a defining feature, potentially sidelining other dimensions such as evaluating evidence or identifying reasoning. Such steering through summarising language is a common dynamic in qualitative interviews, where the researcher’s presence inevitably shapes the data (Mason, 2002; Kvale & Brinkmann, 2009). To mitigate this, I progressively reduced the use of directive keywords, shifting instead to open-ended follow-ups such as, “Could you give an example?” or “How do you usually make that judgement?” This encouraged freer elaboration. During transcription and coding, I also made a conscious effort to note my own prompts and flagged them in the data to avoid mistaking guided responses for independently constructed views.

To deepen understanding of how critical thinking was reflected in students’ creative practices, I invited them in advance to bring a piece of work they felt represented their thought process. This was voluntary and clearly explained as a supportive medium for discussion. The prompt was: “Would you be willing to show one of your works that reflects how you think about or express a particular idea?” When students brought work, discussions focused on their creative process with questions such as, “How did you choose this theme?”, “Did you ever change your original idea?”, or “What kind of thinking does this work represent?” These conversations provided additional insight into students’ meaning making and served as a means of triangulating their understandings of critical thinking through both explanation and artistic expression.

All interviews were conducted in Mandarin Chinese, the participants’ native language, to ensure comfort and allow for nuanced, contextually appropriate expression. This was particularly important given the culturally embedded nature of critical thinking and the subtle ways participants articulated their views. Conducting research in participants’ own language enables more authentic meaning-making and reduces distortion caused by premature translation (Temple & Young, 2004). Squires (2009) also stresses that interview language significantly shapes the quality and depth of data, especially in culturally sensitive areas such as identity, cognition, and values. Using

Mandarin thus aligned with the constructivist epistemology underpinning this study, which emphasises the role of language and context in shaping understanding (Crotty, 1998; Vygotsky, 1978). All interviews were audio-recorded with informed consent and transcribed verbatim in Chinese. Features of spoken discourse, such as hesitations, repetitions, fillers, and tone shifts were preserved, as they conveyed pragmatic and emotional cues relevant to interpretation (Oliver, Serovich, & Mason, 2005). Since meaning is deeply embedded in language, analysis was first conducted in the original transcripts before translation (van Nes et al., 2010). To ensure accuracy, participants were sent their transcripts for confirmation. Once themes were generated, key quotes were translated into English while retaining the Chinese originals for traceability (see Figure 3.2). In translation, I prioritised meaning over stylistic fluency, aiming to preserve participants' tone and intent. To strengthen validity, I invited bilingual colleagues to review selected translations and conducted sentence-by-sentence comparisons with the Chinese text to minimise misinterpretation.

我觉得创造性思维更多的是从无到有的一个过程，讲究的是出一个新东西。批判性思维它是更多的是根据一个现有的东西抛去一些去挖掘、反思、批判，然后达到一个螺旋提升的效果，它本质上是一个改造。（I think creative thinking is more of a process of creating something from nothing, and it is about coming up with something new. Critical thinking is more of a process of digging, reflecting, critiquing, and then achieving a spiral upward effect based on an existing thing, which is essentially a transformation.） ↓

↓

我： ↓

好的，好的，我觉得你说得很好，那你觉得这种批判性思维获得的是怎么样获得的？ ↓

↓

学生 ↓

基本上思维，我觉得这种思维很少会有，人就是从书面上去理解，更多的是日常下意识的提问，对自己思想提问，对自己的行为决策提问别人给自己输入的信息，比如说现在经常什么网络上谣言这些东西对别人给自己信息的提问，这种思维我觉得就是在不停地提问、质疑，然后在重塑里面一步一步获得在。（People will understand from the written, more daily subconscious questions, questions about their own thoughts, questions about their own behavioural decisions, questions about other people's input to their own information, such as what is now often rumours on the Internet these things to other people's information to their questions, this thinking I think it is in the non-stop questioning, questioning, and then step by step to get inside the reshaping in the.） ↓

↓

Figure 3.2 Examples of Quoted Content Translation

3.3.4 Classroom Observation

To enhance data diversity and strengthen analytic credibility, classroom observations were conducted after the teacher and student interviews, providing first-hand insight into teaching practices and interactions (Patton, 2015). Observation offered advantages beyond interviews by capturing non-verbal behaviours, interaction patterns, and instructional strategies that are otherwise difficult to record (Merriam, 2016). It enabled me to witness how knowledge was enacted and negotiated in real contexts, particularly across multimodal dimensions such as language, spatial arrangements, and teacher–student interactions. The aim was to assess whether teachers stated pedagogical intentions were reflected in practice, and whether students' behaviours

demonstrated forms of critical thinking described in interviews. In this sense, observation served as a tool for triangulation (Creswell & Poth, 2018).

Two courses were observed: one practice-based course (final project supervision) and one theory-based course (art criticism). These were chosen as representative of the two majors. In Fine Art, the final project supervision session is the core practical platform for developing and refining creative works, while in Graphic Design, similar sessions focus on problem-solving and project outcomes. The art criticism course, attended by both majors, emphasises articulation and reflection, offering a shared theoretical context. Together, these courses represent the two domains where critical thinking is most evident: the problem-solving processes of creative practice and the reflective reasoning fostered in art criticism (Brookfield, 2012).

The practice-based course was observed in person across two sessions. Attention was paid to how the teacher guided students in analysing problems, developing design concepts, and evaluating reasoning, as well as how students engaged in reflection, questioning, and evaluative judgement. For instance, in a graphic design session on a community brochure for an urban village, the teacher asked whether the colour palette provided sufficient contrast and whether the audience would clearly understand the design. The student reflected on visual hierarchy, recognised that low contrast could reduce readability for older residents, and proposed adjusting the background tone and font size. This demonstrated evaluative judgement and responsiveness to audience-oriented feedback. The art criticism course, delivered online due to pandemic restrictions, was attended by both graphic design and fine art students with shared content across disciplines. Only one session was observed. With the teacher's invitation, I joined the live-streamed lecture and follow-up Q&A. Although online observation limited access to non-verbal communication, classroom atmosphere, and group interaction (Gobo, 2016; Cohen et al., 2018), it still provided valuable insights into teaching strategies, modes of student expression, and the language used in evaluating artworks. The observations focused on five dimensions: teacher behaviour, student behaviour, curriculum content, nature of interactions, and non-verbal cues.

To guide this process, I designed semi-structured observation templates for both teachers and students (see Appendices 7). These templates ensured observations were systematic and comparable across sessions, reducing the risk of overlooking key behaviours, while their flexibility allowed unanticipated dynamics to be captured, an essential feature of qualitative, exploratory studies (Merriam & Tisdell, 2016).

For teachers, I observed whether they posed open-ended questions, encouraged differing opinions, challenged or supported students' ideas, and used "why"-type prompts. I also noted whether feedback was guiding, critical, or encouraging, since such practices reflect intentional efforts to foster critical thinking (Brookfield, 2012; Paul & Elder, 2014). For students, I recorded whether they asked questions or challenged ideas, articulated understandings of artworks, or evaluated peers' and teachers' views. Instances of reasoning, providing examples, comparisons, evaluative comments, and autonomous decision-making were treated as indicators of critical engagement. In terms of curriculum content, I examined whether tasks were open-ended or inquiry-based, whether students were required to justify views or engage in self-expression, and whether assignments encouraged exploration of social issues or comparative critiques. The presence or absence of critical demands embedded in tasks was a central concern. The nature of teacher–student interaction was a key focus. I observed whether exchanges were one-directional, dialogic, or collaborative, and how group discussions unfolded, particularly students' responses to divergent opinions. Engagement was assessed through behaviours such as hand-raising, active participation, silence, or passivity. Attention was also given to non-verbal elements, including teachers' body language and its potential to encourage or inhibit expression, as well as the overall classroom atmosphere. For example, in one session the teacher gave detailed critical feedback on a student's artwork while the rest of the class remained silent, creating a serious and slightly tense environment.

While semi-structured observation templates provided structure, the process remained flexible, allowing for the recording of unanticipated yet significant behaviours in line with the study's interpretivist orientation (Angrosino, 2007; Merriam & Tisdell, 2016). In practice, I did not confine my field notes strictly to the template categories; instead, I supplemented them with additional space for capturing contextual detail and

emergent behaviours that would otherwise have been lost. Observational data were recorded through detailed field notes in Chinese to capture nuances of discourse, gesture, and atmosphere in the original cultural context. Relevant excerpts were later translated into English for analysis and presentation. Figure 3.3, 3.4 illustrates an excerpt from my handwritten notes, showing how teacher prompts and student responses were documented in real time. Identifying information was removed, and the notes were cross analysed with interview data for triangulation (Denzin, 1978). To minimise researcher bias, observations were conducted in a non-participant manner, with me acting as a passive observer and avoiding interference in classroom activities (Cohen et al., 2018). Nonetheless, the act of observation itself influenced dynamics: students, aware of being observed, sometimes appeared more prepared or eager to display desirable behaviours (Merriam & Tisdell, 2016). In small classes, my presence was occasionally acknowledged through eye contact or subtle shifts in behaviour. As Hammersley and Atkinson (2019) note, an observer's presence is inherently part of the social setting and never fully neutral. When such moments occurred, I maintained a neutral posture and refrained from interaction, while documenting and reflecting on the potential influence of the observer effect in my field notes.

ask questions?	在视频中遇到的哪些问题,同时了解不同人对住、行、吃、穿的态度。此外还进行了文献搜索,目的是如何更好地理解问题,改进设计指南。
Inquiry of questions ✓ Understanding the different perspectives of the issue Giving support to arguments from different perspectives	她愿意接受不同的声音/不同的角度。 ① 地理位置 ④ 租房流 ② 相关配套产业 ⑤ 居住环境 ③ 物价房价 ⑥ 民众居住
Ability to make decisions Whether or not a choice can be made Why the choice was made What is the rational for such a choice	① 学生完成了两个版本的海报,其内容有(招租,看房事项) (红灰/绿,蓝) 学生无法进行选择,因为现阶段她认为挺满意。 ② 收集的信息还未在完成归纳/或归纳未展现。
Critical view of others' opinions Are confident in expressing their views on the teacher's feedbacks How to respond to other students' suggestions and opinions	老师的提问:“为什么你的海报要用黄色字体,看起来眼睛很累?” 学生回答:“老师,你们是否有观察过夜晚的霓虹灯招牌,我希望我的指南可以在夜晚也醒目。(学生声音洪亮,自信)” 老师提问:“你的设计指南是免费发放给人们吗?或者你想要一个定价?” 学生回答:“我希望是付费的,因为我觉得带给他们的收益会很大。” 老师提问:“那你是否考虑到城中村?人们是否愿意去支付呢?” 学生回答:“正式因为他们是工薪阶层,他们需要精打细算,而我的指南可以帮助他们节约成本,少走弯路。”
Further development Is clear about one's goals Understand one's problems Able to reflect on the current stage	① 海报的黄色过于鲜艳需要更改 ② 海报增加烟火味,让忙碌一天的人有回家的感觉。 ③ 搞幻灯机装置。
Other notes (differences between the graphic major and the painting major)	能观察到学生根据自身的经历去进行选题,同时能够发现经历中存在的一系列问题,并希望通过设计来改变现状。学生做了很全面的文献调查,以及访谈文本记录。她收集的东西很多,现阶段没有进行取舍、归纳。 当老师给出意见后,该生认真听老师对于其它同学的feedback,之后学生开始整理老师给予的建议。

Figure 3.3 An excerpt (part) taken from my handwritten observation notes.

<p>Questioning attitude Have questions about the topic/theoretical knowledge/artwork/be able to ask questions?</p>	<p>What issues arise when renting accommodation, whilst gaining insight into people's daily lives and attitudes towards food.</p>
<p>Inquiry of questions Understanding the different perspectives of the issue Giving support to arguments from different perspectives</p>	<p>The student undertook the following actions: literature review, questionnaire survey, and voting. The objective was to better refine the issues. She is open to considering different perspectives:</p> <ul style="list-style-type: none"> • Geographical location • Related supporting industries • Cost of living • Rental procedures • Public sentiment • Surrounding residential environment
<p>Ability to make decisions Whether or not a choice can be made Why the choice was made What is the rationale for such a choice</p>	<ul style="list-style-type: none"> • The teacher believes the selected information has not yet been summarised (rental listings, viewing arrangements, etc.) • The student has produced two poster designs and feels unable to choose between them, requesting the teacher's assistance in determining which to select.
<p>Critical view of others' opinions Are confident in expressing their views on the teacher's feedbacks How to respond to other students' suggestions and opinions</p>	<p>Teacher: Why did you use fluorescent colours? They strain the eyes! Student: Teacher, have you ever observed neon lights at night? They appear far more eye-catching. I want my poster to stand out in the evening too. (Student speaks confidently and loudly) Teacher: Are your design guides distributed free of charge? Have you considered the costs? Or do you intend to charge for them? Student: I'd prefer it to be paid, as I believe it would yield significant benefits for them. Teacher: Have you considered whether urban village residents would be willing to pay? Student: Precisely because they're working-class, they need to budget carefully. My handbook will help them reduce costs and avoid unnecessary detours. Teacher: Have you considered whether residents in urban villages would be willing to pay?</p>
<p>Further development Is clear about one's goals Understand one's problems Able to reflect on the current stage</p>	<ul style="list-style-type: none"> • The poster's fluorescent colours are excessively vivid • Add a touch of everyday life • The slide projector apparatus
<p>Other notes (differences between the graphic major and the painting major) Students were able to select topics based on their personal experiences, identify a series of issues within those experiences, and attempt to change the status quo through design. They conducted comprehensive data research, including literature reviews, questionnaire surveys, written records, and interviews. However, much of the collected data was not synthesised or summarised. The teacher mentioned in class that it was necessary to synthesise the information before proceeding with creative revisions.</p>	

Figure 3.4 Translation of my handwritten observation notes (excerpts).

3.3.5 Ethical Considerations

Explicit ethical considerations are essential when embarking on a research programme. The study followed the Code of Ethics for Educational Research developed by the British Educational Research Association (BERA, 2018) to ensure research compliance in terms of respect for participants, informed consent, avoidance of harm and research transparency. In addition, the researcher adopted a non-interventionist stance during classroom observations and obtained permission from the lecturer and the institution prior to teaching to ensure that there was no disruption to the teaching and learning process. During observations, the researcher sat at the back of the classroom, refrained from interacting with students or the teacher, and took notes discreetly to remain unobtrusive. Particularly given that the researcher had a working background in the institution observed, this study also adopted the Scottish Educational Research Association (SERA) recommendations relating to the ethics of the research relationship, with ongoing reflection on the potential impact of the researcher's role on the process of generating and analysing data. It was not until ethical approval was sought by the Ethics Committee of the School of Education at the University of Strathclyde and consent was sought from my potential participants that I began to collect data.

Permission for this study was first obtained from the research site's Teaching and Learning Office in the Faculty and the Head of Department prior to entering the field to collect data, before contacting specific course teachers and obtaining their written consent for interviews and classroom observations respectively. The courses and interviewees involved in this study were from an undergraduate arts college where I worked (the term 'Northern University' or 'the research site' is used in the dissertation to protect participant identities), and the choice of a familiar research site brought with it several ethical considerations. Whilst familiarity facilitates access and builds trust, it also introduces complex power dynamics that require constant reflexive attention. As Glesne (2011) points out, researchers conducting research at organisations known to them may inadvertently affect participants' willingness to participate or their openness during interviews, particularly if previous roles involved authority or assessment. One concern related to unequal power relationships between researchers

and participants, especially when researchers were perceived to have institutional knowledge, insider status, or previous influence over the environment. This can create a sense of obligation amongst participants that may undermine the voluntary nature of consent (Merriam et al., 2001).

To mitigate this, I explicitly informed all participants that their participation was entirely voluntary and would have no impact on their academic status or institutional relationships, and that they could withdraw at any stage of the study without giving a reason. Teachers and students signed an informed consent form in both English and Chinese (Chinese above, English below). To ensure anonymity, the real names of all participants were removed. Instead, teachers and students were represented in the text using codes (e.g., GD-T1 = Graphic Design Teacher 1; FA-S1 = Fine Art Student 1). This avoided the use of identifiable personal characteristics (e.g., unique awards or very small groups of traits) and minimised the risk of participants being recognised (BERA, 2018).

At the beginning of each interview, I restated the purpose, duration, and scope, and reconfirmed participants' willingness to take part. Key points included that the interview would be audio-recorded, data processed anonymously, and that they could withdraw at any time. The research aim was explained in plain language: "I am researching critical thinking in art education and would like to understand your view of this concept, and whether you have had any related experiences in your classes or creative practice." While most participants readily agreed, a few, including one teacher, expressed concern about being recorded. I explained that recordings were solely for research purposes, securely stored on encrypted devices after transcription, and never shared with third parties. I also assured them that all transcripts would be anonymised with identifying details removed.

To analyse how students expressed critical thinking in their artmaking, artworks mentioned during interviews were systematically coded and linked to transcripts. Each participant was given a code (e.g., FA-S1) and artworks were numbered (e.g., FA-S1-W1 = Student FA-S1's first work). This enabled integration of verbal and visual data. During the consent process, participants were informed that audio recordings and anonymised transcripts would be used. However, as interviews increasingly focused

on artworks, the initial consent form did not explicitly cover visual data. I therefore re-contacted participants individually, explained the intention to include artworks, and sought additional consent via email. Participants could agree, anonymise, or withdraw their visual work, and only pieces with explicit permission were included in the thesis. The use of visual artworks raises complex ethical considerations. Such works often reveal personal identity, emotions, and stylistic traits, heightening the risk of visual identifiability (Wiles et al., 2012). Moreover, researcher interpretation can recontextualise artworks, potentially diverging from or even distorting the artist's intended meaning (Prosser, 2005).

To address these issues, this study did not adopt a blanket anonymisation policy. Instead, participants were given the choice of whether their visual work could be identifiable. This acknowledged that some students, proud of their artwork, wished it to be linked to their identity (Banks, 2015; Pink, 2021). When participants chose attribution, a degree of partial de-anonymisation occurred because the artwork and related interview excerpts were analysed together. They were fully informed that this could allow readers to connect their creative output with their interview reflections once the thesis became public. Informed consent was obtained based on this visibility. For those preferring anonymity, visual anonymisation strategies were applied: signatures, distinctive titles, or unique motifs were removed; cropped sections or non-distinctive details were reproduced; and in some cases, descriptive written accounts replaced the full image. These measures aimed to illustrate the creative process while protecting privacy (Pink, 2007). In my interpretive commentary, I followed ethical principles of visual research stressing clarity and respect for artistic expression (MacRae, 2008; Pink, 2007), avoiding reductive meanings and recognising the ambiguity and richness of art.

The courses observed were specialised modules within the university's Design and Fine Arts departments. Data collection took place partly during the COVID-19 prevention and control phase, when some theoretical courses (e.g., Art Criticism) shifted online. Consequently, observations of this course were conducted virtually. Although online observation limited the capture of non-verbal behaviours and classroom climate (Cohen et al., 2018), I documented teaching interactions, teacher

questioning, and student responses in detail to preserve evidence of critical thinking. Throughout the process, I adhered to ethical principles for remote research in educational settings during a pandemic, ensuring no disruption to teaching and learning and that all data collection was conducted transparently and without coercion.

3.4 Data analysis

To analyse the data collected from semi-structured interviews, classroom observations, and student portfolios, I employed thematic analysis as the primary strategy. As Patton (2015) notes, qualitative research values explanatory power, theoretical insight, and analytical depth rather than statistical significance. Thematic analysis, widely recognised as one of the most used qualitative methods (Guest et al., 2012), is particularly effective for exploring multi-source data while preserving contextual detail and abstracting meaningful themes. This approach was well suited to examining how art students and educators interpret and reflect on critical thinking in their own words. Participants' diverse educational backgrounds meant they articulated multiple constructed realities shaped by personal experiences, artistic practices, and teaching contexts.

Aligned with a constructivist epistemology, I treated thematic analysis as an interpretive and interactive process in which meaning was co-constructed with participants (Braun & Clarke, 2006). From this perspective, themes were not discovered but shaped through the dialogue between participants' narratives and my conceptual lens. Thus, my understanding of critical thinking in art education emerged from recurring patterns that reflected both individual perspectives and shared concerns. Within a social constructivist framework, thematic analysis offers a way to explore how language, social interaction, and cultural context shape educational concepts (Clarke & Braun, 2017). Thematic analysis also provides a systematic yet flexible method for identifying and interpreting recurring patterns (Braun & Clarke, 2006). This flexibility, compared with other approaches such as grounded theory, narrative analysis, or discourse analysis, allows movement between inductive and theory-driven perspectives (Nowell et al., 2017). In this study, I applied Paul and Elder's (2006) framework of eight elements of thought and nine intellectual standards as a theoretical lens to interpret and synthesise the initial themes. Particular attention was given to

themes reflecting reasoning, perspective-shifting, standard-based evaluation, and purposefulness, as these closely linked theoretical constructs with lived experiences.

Thematic analysis allows openness in determining the length and scope of coding units (Charmaz, 2014; Floersch et al., 2010), enabling both micro-level expressions and broader narrative segments to be coded meaningfully. This flexibility was particularly important in visual arts education, where students' critical thinking is often expressed through images, conceptual development, and non-verbal behaviour rather than abstract argumentation. For example, one student described their preparatory process for a creative project, referencing research, contextual awareness, judgement, and cognitive adjustment. As shown in Figure 3.4, the student's sketches and colour draft revisions illustrate critical thinking as a chain of reflection, including layout adjustments (coded as "Reflection in Creative Practice" and discussed in section 5.1.2). Although these reflections spanned several sentences, they formed a coherent process. To preserve this cohesion and cognitive integrity, I coded the entire passage as information gathering and reflection as a critical thinking preparation process in creative practice.



Figure 3.5 The students' work illustrates critical thinking as a chain of reflection, including the layout of the work.

I adopted Braun and Clarke's (2006) six-phase model of thematic analysis because it provides a clear and systematic route from coding to theme development. At the same time, thematic analysis depends on the researcher's interpretation and may remain at a descriptive level without a guiding lens (Braun & Clarke, 2006; Nowell et al., 2017). To strengthen explanatory power and conceptual depth, I combined inductive theme generation with Paul and Elder's (2006) critical thinking framework. In this study, the Elements of Thought served as the main analytic tool because they enabled me to trace how critical thinking was constructed in interviews and observations, for example through purpose, questions, information, assumptions, inferences, and implications. The Intellectual Standards were used to examine the quality of participants' judgements, including clarity, relevance, accuracy, depth, and logic. In analysis, the Intellectual Traits were used as a supporting lens, rather than a fixed coding scheme, to consider how qualities such as fair-mindedness, intellectual humility, and self-correction were encouraged or constrained in classroom practice.

I also treated Chinese cultural and aesthetic values as an explicit part of the analytic process. Values such as harmony and relationality can shape how students' express disagreement and how critique is framed. These practices are often indirect and attentive to face. Intuition can also be understood as a legitimate source of insight in art learning. In analysis, I therefore examined how intuitive responses were translated into claims that could be supported by reasons and evidence. This helped me adapt the framework to the local teaching context. Drawing on Marshall and Rossman (2016), the analytic process moved from informal reflection to more formal coding and theme development. During data collection, I wrote margin notes and reflexive memos to record my assumptions, concerns, and early interpretations. This was particularly important because my familiarity with the Chinese art education context could lead to taken-for-granted readings. During familiarisation and initial coding, I wrote brief memos to separate participants' statements from my own inferences. When a theme appeared too tidy, I actively looked for counterexamples and returned to interview transcripts and fieldnotes. To strengthen the integrity of the analytic process, I discussed theme boundaries and naming decisions with my supervisors. I then applied Braun and Clarke's (2006) six phases consistently, as shown in Table 3.5, to trace the development from initial codes to final themes.

Table 3.5 Steps in the six-stage thematic analysis

Braun & Clarke six-stage	Description of the research steps
Pre-analysis engagement (informal analysis)	Intuitive understandings such as initial impressions, emotional reactions, key words, questions, etc. are recorded during the data collection phase; used to guide subsequent coding directions.
1.Familiarisation (informal analysis)	Reading interview texts, observation notes and descriptions of student work for initial reflection and labelling
2.Generating Initial Codes	Open coding based on participant language, focusing on <u>behavioural</u> and cognitive expressions related to critical thinking based on the research questions
3.Searching for Themes	<u>Categorising</u> similar codes into preliminary themes, identifying critical thinking in creation, interaction and teaching
4.Reviewing Themes	Go back to the data to check the accuracy and consistency of the themes, eliminating overlapping or weak themes
5.Defining and Naming Themes	Re-understand and rename the topic in relation to Paul & Elder's theoretical framework, identifying its position in the structure of thought.
6.Producing the Report	Integrate theories and themes to complete an analytical chapter write-up presenting the ways in which critical thinking is constructed in arts education

3.4.1 The data analysis process

Pre-analysis engagement (informal analysis)

Data were analysed informally during the data collection phase. In many qualitative studies, it is considered unavoidable and beneficial to begin analysing the data before the formal analysis begins, as this can help the researcher to refine the interview questions and explore emerging or critical issues in greater depth as the fieldwork proceeds (Pope, Ziebland, & Mays, 2000). In this study, informal analyses began with semi-structured interviews with six teachers. After the interviews I transcribed the completed interviews and flagged emerging topics - for example, when one teacher mentioned the development of critical thinking skills in relation to teaching methods such as the 'flipped classroom', I added appropriate questions to the student interviews to explore this further. This method of recording analytical ideas and thematic interests helped to increase my sensitivity to the dataset under development and was similarly used in the transcription of later student interviews.

Phase 1: Familiarisation (informal analysis)

Full transcriptions were completed digitally, during which I used yellow coloured text to highlight passages that contained important contextual information or indicated potential thematic patterns for later analysis. Alongside these highlighted sections, I added brief margin notes to capture initial code labelling and possible themes (see Figure 3.6). It is important to note that at this stage, I did not translate the data into English. All annotations were made directly on the Chinese transcripts, which helped preserve the nuance and sensitivity of the original language.

In addition to the interview data, I conducted an initial review and organisation of all classroom observation notes and field records before formal coding began. As Merriam and Tisdell (2016) suggest, transforming raw observational notes into structured text is an essential preparatory step for analysis. At this stage, I grouped my classroom notes according to the flow of classroom activities and divided them into two broad types: practical (studio-based) and theoretical courses. Rather than relying only on the original semi-structured observation form, I highlighted behaviours that might signal critical thinking. These included the teacher's framing of a problem, students' questioning of ideas, reflective comments during group discussion, and relevant non-verbal responses. I then began to cross-reference these behaviours with

the critical thinking cues described by teachers in the interviews. Because my initial notes were handwritten and included occasional transcription errors or unclear annotations, I later digitised and organised them to improve clarity and accessibility (see Table 3.6).

Figure 3. 6 Informal analysis of potential code labelling

我：那老师你是怎么样看待视觉传达？它这个课程你觉得应该是一个什么样子的？具体到哪一方面呢？老师的**教学理念**应该是什么样子的？例如对学生的期望啊之类的。

老师 w：那从终极的目标来说，我觉得还是**创新型人才**的培养。是吧？它这个现在对于这个人才培养的要求，还是侧重于创新，创造性。所以我们现在虽然咱们现在学校的定位是应用型，但是后缀是这种应用型的创新人才。因为设计它肯定是跟这个社会尤其是经济发展它是紧密联系，也对他**服务于社会，服务于商业**。那么它的这种创新能力，他必须走在时代的前列。你不能跟着这个市场啊这个或者商品的。这个后面一直在追她，而是一种起到一个引领的作用，设计要这种引领作用。

引领人们的生活，引领人们的消费，引领人们的审美。所以现在我们就基本上是教学当**中最倡导的还是一种创造性思维**。创新人才对这一块的培养。那当然创新里边需要很多东西。那比如说，这个艺术技能**基础要打好**啊，你没有一定的基础去谈创新，肯定是不太现实啊。所以说对这个基础课啊，课程体系的这个架构都是要紧随着我们的人才培养目标。像咱们学校这种就是应用型人才，通过课堂教学呀，通过这个作业的环节啊，然后还有实践呀，然后去在这个过程当中就培养学生的这种创新精神。

我觉得这个创新的理念另外一个就是现在这种**师生的这种关系**也是我们比较注重的。以前以这个**教师为主导**的这样的一个教学模式范式，然后逐渐的到**以学生为中心**的这样的一个反思的一个改革。以前都是那种传统式的记忆式的教学，就是老师教啊然后学生听。现在呢就是以学生为中心，学生为主，教师为辅。那么在课堂上也不单单是一味地去灌输一些这种这种涉及的理论技能是吧？而是提倡一些包括反转式的课堂。所以我在这个教学当中，还有在听其他老师的这个课的过程当中，我发现老师都逐渐在往这个方向教学中在转变。那么就会主动地从这种纯教授，然后转到引导学生去主动地学习，去思考。

我：老师是否可以列举一些关于反转课堂的细节。

老师 w：课前、课中、课后三个环节啊都是一块儿进行的。那么课前我可能会把我提前给学生教授的知识点，让他们课前去准备，让他们去预习，自己找资料啊，然后去主动地

1 终极目标：创新型应用人才培养。(引领市场)
2 现目标：应用型人才，服务于社会商业。(市场需要)

对于现阶段来说，在艺术课程中对创造性思维持有积极的态度。(Participant perspective code)
并认为绘画技能是创新的基础。
以前以教师为中心的传统授课模式向以学生为中心的方向转变。例如增加了翻转课堂。

A reflexive and culturally sensitive stance was important throughout this process. I recognised that in Chinese classrooms, critical reasoning may not always be expressed through direct challenge or extended verbal debate. Silence, brief agreement, or tentative phrasing can still carry evaluative and reflective intent, especially where harmony, face, and respect for authority shape participation. For this reason, I avoided treating low verbal participation as an absence of critical thinking. Instead, I attended to indirect and embodied forms of criticality, such as students’ hesitation, peer-to-peer whispering, laughter that signalled discomfort, changes made during revision, and the way questions were framed to reduce risk. I also remained alert to possible mismatches between interview accounts and observed behaviour. When students described valuing

critique in interviews but spoke less in class, I treated this as context-sensitive regulation rather than inconsistency to be corrected.

Table 3.6 Summary of classroom observation notes for the Art Criticism classroom

Types of activities	Teacher behaviour	Student behaviour	nonverbal behaviour	Critical Thinking Cues
Theoretical knowledge explanation	The teacher asks the question, ‘What style do you think this piece belongs to?’	Student silence, some whispered discussion	Teacher faces students, waits for response, responds after roll call	Teacher-led problem identification
Class discussion	The teacher says, ‘You can discuss the different opinions with the students around you.’	Students begin to communicate	There is a lot of student interaction, and the atmosphere is tense but engaging	Students actively participate in exchanging ideas with each other
concluding session	The teacher reviews examples of the work and says, ‘We explored multiple perspectives and styles of work today, and I hope you will remember the characteristics of these styles.’	Students take notes, end of class	Teachers slow down their speech	Does the teaching task include discursive extensions

Phase 2: Generating Initial Codes

After completing the initial transcription and informal reading of the teacher and student interviews, I began a systematic thematic analysis. I first reread all interview transcripts and revisited parts of the recordings. I focused particularly on the segments highlighted in yellow during the transcription stage, cross-referencing them with my observation notes and identifying expressions that appeared repeatedly to uncover potential patterns of meaning. The codes ranged from surface-level semantic similarities (for example, most teachers and students described critical thinking as evaluative thinking) to deeper shared meanings where different wording revealed similar underlying ideas or reasoning. At this stage, I did not limit the number of codes or restrict any data to a single code. The coding was done manually, and I visualised the categorised codes using a table (see Table 3.7), recording how each related to the research questions and why it was selected (Braun & Clarke, 2006). The codes were organised separately for teachers and students. I then tabulated all the teachers' and students' initial coding to facilitate intuitive comparison, see Appendix 8, 9 and 10.

Phase 3: Searching for Themes

At this stage, I began to organise the initial codes into broader thematic clusters to identify meaningful patterns in the dataset (Braun & Clarke, 2006; Nowell et al., 2017). Interviews were treated as the primary source of meaning-making, as both teacher and student narratives directly addressed how critical thinking was understood and enacted. Student artwork portfolios were used as a supplementary interpretive layer, allowing creative decisions to be examined as visual traces of reasoning. These portfolios were not coded as a separate dataset. Instead, they were analytically linked to relevant interview codes to strengthen interpretation. Classroom observation data were analysed in parallel as a comparative dataset, which enabled triangulation between reported pedagogic intentions and enacted classroom practices.

At this stage, Paul and Elder's (2006) framework functioned as a sensitising theoretical lens rather than a prescriptive coding template. I attended to which dimensions remained consistently foregrounded in the Chinese higher visual arts context. In accounts of making and critique, participants most often emphasised purpose (what

they aimed to express or achieve), the key questions driving artistic decisions, assumptions embedded in stylistic or thematic choices, and the reasoning that linked intention to visual strategy. These elements repeatedly shaped how students described both critique and creation. Similarly, among the Intellectual Standards, clarity, relevance, and logic were most prominent, particularly when students justified compositional decisions, selected project information, or evaluated alternative approaches. Standards such as breadth and fairness were less explicit in early making narratives but tended to become more salient in discussions of art criticism that involved cultural meaning and social responsibility. By contrast, explicit references to Intellectual Traits, such as intellectual courage or humility, were far less frequent. This suggests that dispositional aspects of critical thinking were more often embedded in practice than articulated in speech. This selective foregrounding indicates that, in Chinese visual arts learning environments, critical thinking most visibly takes the form of goal-oriented reasoning, contextual relevance, and coherent decision-making, rather than public debate or overt dispositional self-positioning. The framework therefore supported an empirically grounded account of which cognitive dimensions aligned most closely with existing teaching traditions and cultural expectations.

Early theme groupings emerged through frequent code co-occurrences (see Table 3.8). For example, the codes “self-questioning during creation”, “evaluating ideas”, and “decision-making in design” clustered around a working theme of “Reflections on the art-making process”, in which purpose, assumptions, and reasoning were especially prominent. Similarly, codes related to “interpersonal communication for cognitive challenge”, “literature and textbooks”, and “cultural influences” suggested an initial theme around the “origins of critical thinking”. At this stage, these themes remained fluid and overlapping. I did not impose boundaries too early. Instead, I used provisional labels (e.g., “practice-related reflection”, “defining critical thinking”, “pedagogic constraints”) and kept analytic memos to explore whether codes reflected classroom practice, cultural expectations, or institutional structures. For instance, comments such as “most artistic propositions assigned by teachers are restrictive” were examined both as an issue of pedagogic design and as a possible expression of broader cultural constraints on criticality. This openness to interpretive complexity laid the foundation for later theme refinement.

Table 3.7 An Example of Coding

Initial code	Source	quotation	notes
Decision-making and problem solving Diversity of views	GD2	批判性思维会影响对客观事物的理解。不同的观点会导致不同的结论，它直接影响你提出的最终解决方案。(Critical thinking affects the understanding of objective things. Different perspectives lead to different conclusions, and it directly affects the final solution you propose.)	Emphasis on building core competencies for understanding and decision-making in the face of complex problems
Critical expression of reality Social responsibility	FA1	批判性思维就是要发现和批判社会问题；我们关注的，更多的是对这些问题的反思。(Critical thinking is about identifying and critiquing social problems; we focus, more about reflecting on them.)	Emphasis on its social critical and reflective nature

Table 3.8 Early Code Groupings, Tentative Headings, and Analytical Notes

Early Grouping	Example Codes	Tentative Heading	Analytical Notes
Origins of critical thinking	Interpersonal communication for cognitive challenge; Literature textbooks; Cultural influences	Practice-related reflection	Distinguishing between reflective practice and general creative decision-making
Reflections on the art-making process	Self-questioning during creation; Evaluating ideas; Decision-making in design	Defining critical thinking	Overlap between personal experience and socio-cultural shaping of thinking
Challenges in developing criticality	Most artistic propositions teachers assign are restrictive	Pedagogical practices / Cultural constraints	Unclear if constraint arises from teaching practice or wider cultural norms

Phase 4: Reviewing Themes

During this stage I systematically reviewed the initial themes to ensure that they were coherent, meaningful and well supported by the dataset. Following Braun and Clarke's (2006) guidance, I undertook a two-level review, first at the level of the coded extracts, and then at the level of the dataset.

Firstly, I revisited all coded data extracts within each theme to assess whether they formed a consistent pattern. This helped to identify any extracts that did not match well, were too diverse or overlapping in theme. For example, within the theme of “Critical thinking in artistic practice”, I checked that all the included extracts truly reflected the embodiment of critical thinking in creative work or criticism. Some of the codes initially placed in this theme were later moved to other themes, such as “Understanding Critical Thinking”, as I realised that they referred more to conceptual definitions than to practice. (See table 3.9)

Then, I considered how well these themes captured the overall meaning of the data in relation to my research questions. I asked whether each theme reflected important elements of the participants' experiences, and whether the themes together provided a rich and multi-layered understanding that would lead to a better understanding of how critical thinking is understood and practised in higher art education in China. This step also included checking for redundancy between themes and ensuring that the boundaries between themes were clear. This review stage helped to ensure that each theme was internally coherent and externally unique, while collectively providing a meaningful and credible narrative for analysis (Braun & Clarke, 2006; Nowell et al., 2017). This process contributes to the overall credibility of the thematic analyses.

Phase 5: Defining and Naming Themes

At this stage, I refined and named each theme to clarify their analytical contribution and ensure consistency and transparency in the structure of the analysis (Braun & Clarke, 2006; Terry et al., 2017). To maintain coding consistency, I revisited earlier transcripts while analysing later ones to ensure similar expressions of meaning were coded in comparable ways. Defining the scope and focus of each theme involved identifying its core organising concepts and how it addressed the research questions

(Braun & Clarke, 2006). I also considered relationships between themes to create a coherent overall narrative. The final three main themes, each with associated sub-themes, are shown in Figure 3.6, and together they were developed to answer the three research questions guiding this study.

Understanding and Development of Critical Thinking: This theme explores how participants conceptualised critical thinking and where they believed it came from. Sub-themes are (1) Definition of Critical Thinking participants described it as evaluative, reflective, or linked to logic and judgement; and (2) Perceived Sources of Critical Thinking including life experience, educational background, or innate abilities. In defining this theme, I drew on Paul and Elder's (2006) model, particularly the role of intellectual traits and elements of thought (e.g., purpose, assumptions, reasoning) in shaping personal understanding. This theme provides the foundation for the others.

Critical Thinking in Artistic Practice: This theme examines how critical thinking is enacted in artistic processes. Sub-themes are (1) Critical Thinking in Creative Work, student and teacher accounts of evaluating, refining, or challenging ideas in creating art; and (2) Critical Thinking in Art Criticism reflections on interpretation, argument, and questioning in response to artworks. These discussions highlight critical thinking as both a skill and a reflective stance in meaning-making, shaping aesthetics and creative styles.

Table 3.9 Example of Theme Review Process with Included and Excluded Codes

Theme: Critical thinking in art creation	Included Codes & Data Excerpts	Excluded Codes & Data Excerpts	Reason for Inclusion/Exclusion
Decision-making in art creation	There's no limit to the size of the paper or the form, it's up to you to decide. (Graphic design teacher WZM)	Critical thinking of being able to look at things from different perspectives helps me make more informed decisions. (Fine art student QWQ)	Excluded because it reflects a conceptual definition rather than a creative process
Reflections on the creative process	After the accumulation of all kinds of sources and experience, let me know how to express. (Fine Art Student CWJ)	The teacher said that this tone may be that a little bit not quite meet the requirements, need to be changed to a brighter colour, and then I re-painted it again. (Fine art student QWQ)	This description primarily reflects passive implementation of teacher feedback rather than active student reflection on critical thinking and is therefore more appropriate to place into themes related to pedagogical impact or classroom interaction rather than critical thinking in art practice.

Critical Thinking in Teaching Practice: This theme explores how critical thinking is integrated into instruction. Sub-themes are (1) Challenges to Traditional Structures, including the ongoing influence of the YIKAO exam model, teacher-centred classrooms, and results-oriented grading; and (2) Emerging Pedagogical Strategies, such as open-ended discussions, critique sessions, flipped classrooms, and studio-based approaches. These insights illustrate how institutional and cultural contexts shape pedagogy in Chinese higher education. Paul and Elder's emphasis on fostering critical thinking through questioning and explicit teaching of reasoning provided a useful interpretive lens for understanding both the possibilities and constraints in practice.

Phase 6: Producing the Report

When writing these three themes, I used Paul and Elder's critical thinking framework as an interpretive lens. My aim was to show more clearly the role of critical thinking in Chinese higher visual arts education. At the same time, the framework was not applied as a fixed Western model. Throughout the analysis, I remained attentive to how Chinese cultural and aesthetic values, particularly harmony, relational thinking, and intuitive understanding, shaped participants' reasoning processes. Rather than viewing these as obstacles to critical thinking, I treated them as culturally situated modes of sense-making that often expanded or reconfigured how elements of thought and intellectual standards were expressed in practice.

For Theme 1, "Understanding and developing critical thinking", I focused on how students and teachers defined critical thinking, and on the logic behind their wording. More specifically, I looked at whether they set clear boundaries around the concept. For example, did they describe critical thinking as "evaluation", "reflection", or "logical judgement"? I also examined how these views supported art learning, such as helping them judge the quality of artworks, justify opinions, or develop a more mature aesthetic judgement. When participants went on to discuss how critical thinking is gained, such as through innate ability, life experience, or education, I did not rush to decide which explanation was more reasonable. Instead, I traced how they supported their views. Did they rely more on personal experience, family influence, or examples from classroom training and critique experience. Particular attention was paid to

moments where participants emphasised balance, experiential understanding, or moral positioning, which reflected Confucian-influenced conceptions of reasoning grounded in relational judgement and reflective integration rather than purely adversarial logic.

In Theme 2, “Critical thinking in art practice”, I mainly drew on creative accounts from interviews, interaction in classroom critique, and portfolio work. I paid particular attention to how participants stated their creative purpose and expressive intent, how they identified problems to solve during making, and how they used information as evidence. This included formal effects in the work, reference materials, limits of tools and materials, and feedback from teachers or peers. I then examined how they moved from this evidence to interpretation and inference. For instance, how did they infer what viewers might understand, or what kinds of meaning a form of visual language might suggest? Alongside analytical reasoning, I also considered the role of artistic intuition and holistic perception, which frequently guided students’ initial creative decisions before being refined through reflection and evaluation. In this way, intuitive insight was not treated as separate from critical thinking, but as an entry point that was subsequently disciplined through reasoning within the Paul and Elder framework.

For data linked to art criticism, I showed how students moved from formalist observation to deeper interpretation and argument. I also examined whether they could keep depth and logical coherence in their discussion. For example, could they compare and weigh different interpretations, rather than staying at the level of intuitive likes and dislikes. Here, I paid particular attention to how students often sought to reconcile multiple viewpoints rather than prioritising one correct interpretation, reflecting a culturally grounded preference for integrative reasoning and harmony.

In Theme 3, “Critical thinking in teaching practice”, I traced how teachers used questions, task design, and classroom interaction to guide students to express purpose and clarify the focus of discussion. For example, in lectures and studio classes, did teachers ask students to explain their reasons clearly and link judgements to evidence in the work? Were students encouraged to offer alternative lines of interpretation? When classes required students to explain and justify judgements, intellectual standards were easier to observe in interaction. Standards such as breadth and fairness depended more on whether the class allowed different styles and diverse

interpretations to be discussed seriously. Within the Chinese context, I considered how exam-driven assessment, relational expectations, and hierarchical teacher–student relations shaped the expression of critical thinking. I examined whether the classroom provided enough psychological safety for students to show intellectual courage and intellectual humility, including the courage to voice different views and the willingness to revise one’s position through critique and reflection.

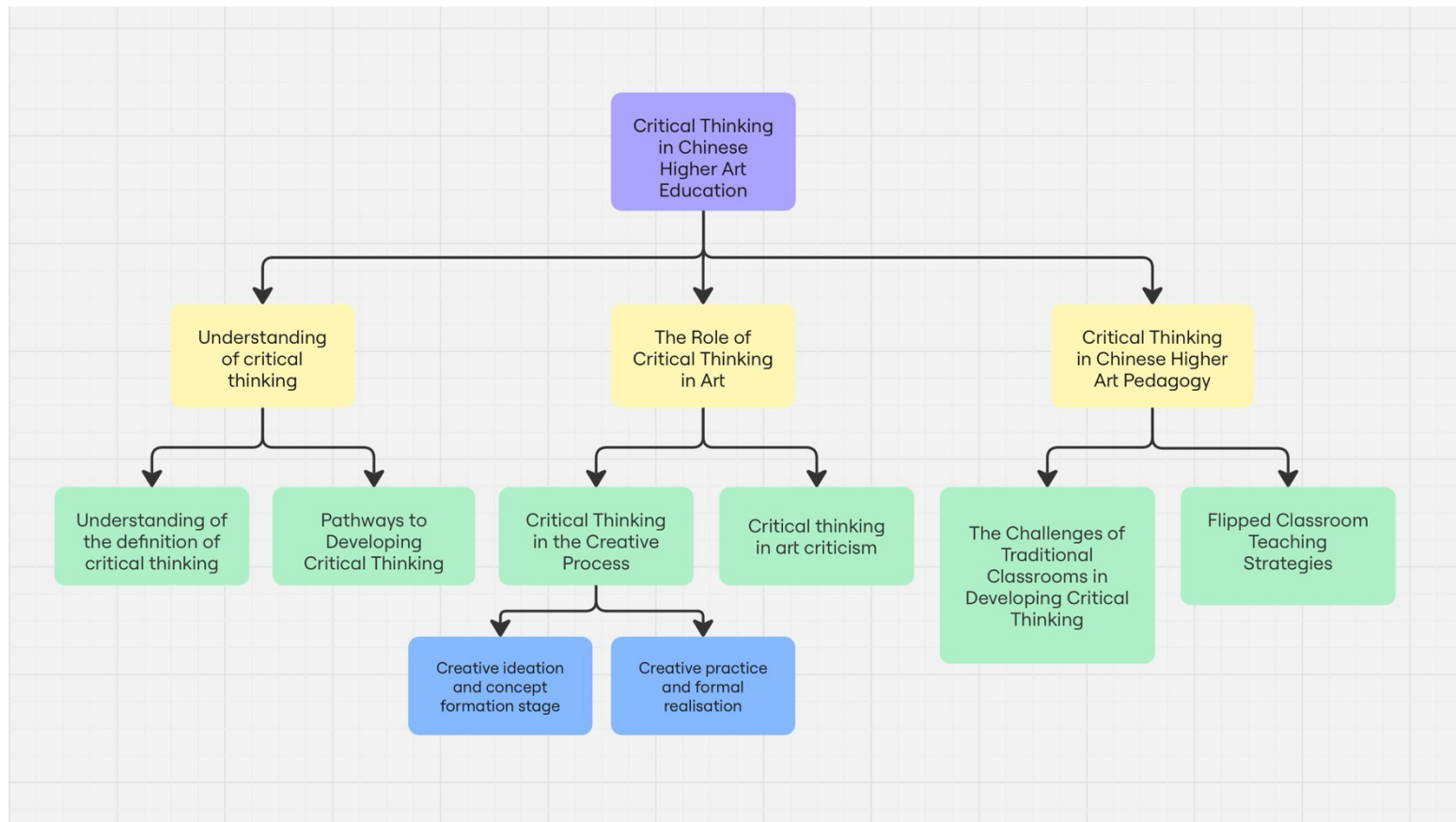


Figure 3.7 Theme Generation and Naming

3.5 Conclusion

This chapter has outlined the qualitative methodology of the study, grounded in a social constructivist paradigm that emphasises the co-construction of knowledge between researcher and participants. A multi-source data collection strategy was employed to capture the complexity of how critical thinking is understood and practised in Chinese higher art education. Semi-structured interviews with six art teachers and twelve students provided the primary data, enabling participants to articulate their conceptualisations of critical thinking, describe its role in artistic creation and critique, and reflect on its development in their educational experiences.

To complement the interviews, I observed two representative courses: a face-to-face graduation studio session and an online art criticism class. These observations captured non-verbal aspects of teaching and learning, such as reflective pauses, peer interactions, and spontaneous critique, adding a behavioural dimension to the interview data. Several students also submitted artworks, including preparatory sketches and completed pieces, which were treated as artefacts of critical thinking, illustrating processes such as iteration, reflective decision-making, and engagement with cultural or contextual references. Teaching materials and student work descriptions were also collected to situate individual accounts within broader institutional and curricular contexts.

For analysis, I followed Braun and Clarke's (2006) six-phase model of thematic analysis, combined with theory-informed interpretation using Paul and Elder's (2006) framework of critical thinking. Initial coding was inductive, allowing participants' voices to emerge from the data, while later stages engaged deductively with Paul and Elder's model to ensure alignment with intellectual standards (e.g., clarity, relevance, logical consistency) and elements of thought (e.g., purpose, assumptions, reasoning). This inductive–deductive approach enhanced both the depth and theoretical credibility of the analysis. A deliberate process of triangulation was embedded throughout: interviews were cross-checked with observations, artworks provided visual confirmation of cognitive and reflective processes, and teaching materials contextualised individual accounts within institutional frameworks. This design

strengthened the trustworthiness of the findings by highlighting convergence, complementarity, and occasional tensions across sources.

By integrating these methods and analytic strategies, I developed a nuanced understanding that directly addresses the three research questions: (1) how teachers and students conceptualise critical thinking and the factors shaping its development; (2) how critical thinking is embodied in artistic creation and criticism; and (3) how teaching practices foster or constrain critical engagement. This chapter thus provides a methodological foundation and a bridge to the thematic findings presented in Chapters 4, 5, and 6, where the voices of teachers and students, supported by observational and visual evidence, construct a multi-dimensional account of critical thinking in the arts.

Chapter 4: Understanding of Critical Thinking

As described in the methodology chapter, this study uses thematic analysis to examine interview transcripts with teachers and students from Chinese higher art institutions. Through repeated coding, theme development, and constant comparison across cases, three core themes were identified: how participants understand critical thinking, how they use critical thinking in art learning and creative practice, and how critical thinking is supported or constrained within teaching and institutional settings.

As the first chapter of the findings, Chapter Four focuses on the conceptual dimension of critical thinking. Since this term appears often in the dataset but carries different meanings, this chapter first explores how participants define critical thinking in their own words and what they see as its value. To clarify the findings, the analysis draws on Paul and Elder's framework (Paul & Elder, 2006). It is not used as a checklist of correct definitions. Instead, it works as an interpretive lens to examine recurring features in participants' reasoning and what they choose to emphasise. The chapter then considers how participants explain the origins of critical thinking, such as educational experience, disciplinary training, or wider life experience. It also examines how they distinguish critical thinking from related concepts such as creativity. The chapter highlights both shared patterns and differences across participant groups, with particular attention to their accounts of the meaning, function, and sources of critical thinking. In doing so, it provides a conceptual foundation for the later chapters, which examine how critical thinking is enacted in art making and critique, and how it relates to pedagogy, assessment practices, and institutional culture in China.

Figure 4.1 outlines how the initial codes developed into sub-themes and were then brought together into the chapter theme. It provides a map of the analytical structure that guides the discussion.

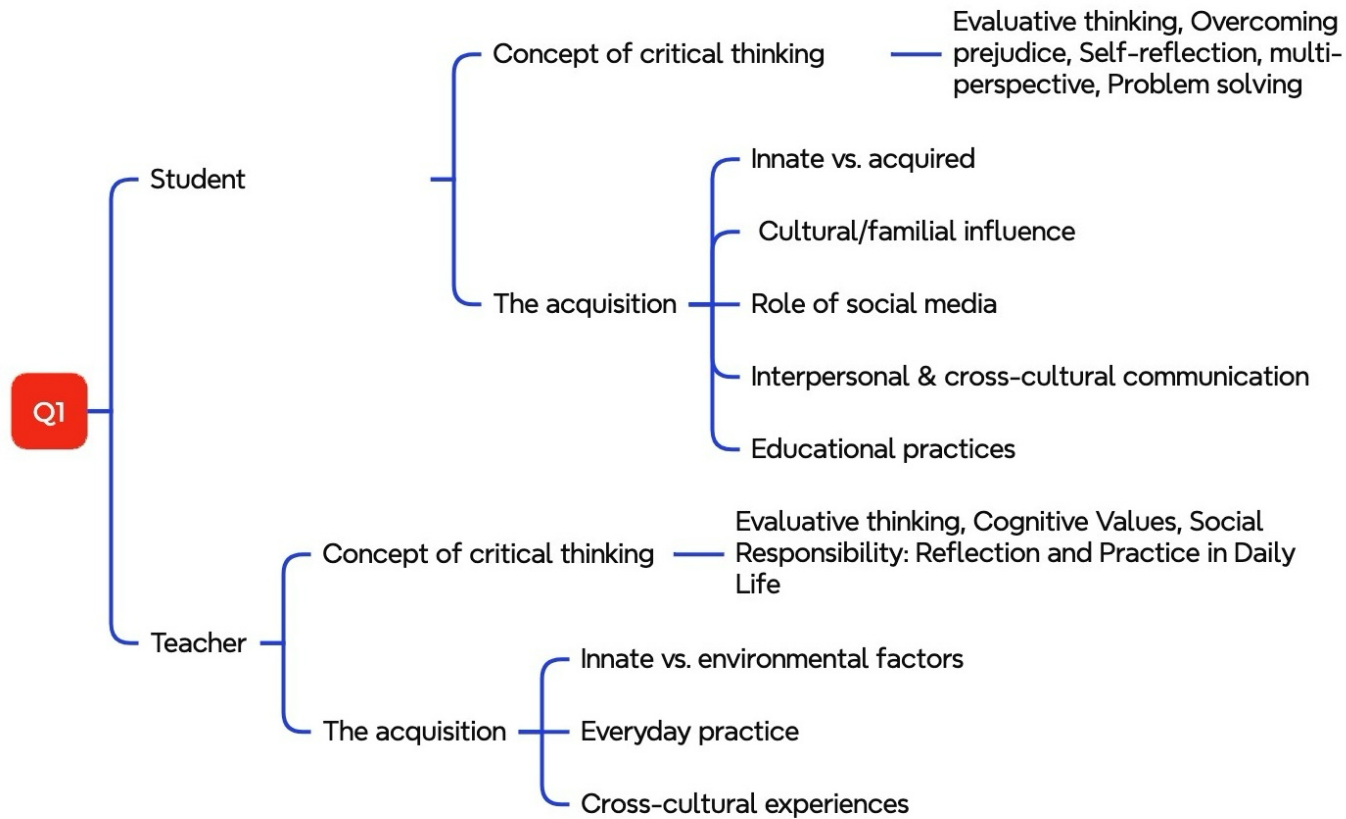


Figure 4.1 Students' and teachers' perspectives on the concept and acquisition of critical thinking (Q1).

4.1 Students' understanding of the definition of critical thinking

During the interviews, students were asked to clearly express their understanding of critical thinking, aiming to assess their prior familiarity with the concept and determine whether they could engage in meaningful reflection on its relevance to art education. As Facione (1990) emphasised, establishing a foundational understanding of critical thinking elements is a prerequisite for deeper engagement. Most students acknowledged they had not systematically studied the concept, and their responses revealed considerable uncertainty. Several students explicitly stated:

I'm not sure if my understanding is correct (FA-S2, FA-S5; GD-S5).

This uncertainty not only highlighted students' lack of confidence but also indicated their need for clearer guidance to develop a coherent concept of critical thinking. This suggests that the current curricular environment, where critical thinking is rarely explicitly taught, leads students to form their understanding primarily through personal interpretation rather than structured instruction.

At the beginning, many attempted to interpret the term literally. One student admitted,

Well, I'll try to interpret it literally (FA-S6).

This tendency to break the concept into its two components, critical and thinking, demonstrates that students often drew upon every day or intuitive meanings rather than academic frameworks. Their responses suggest that critical thinking, for many, was not a familiar construct learned through formal instruction but something they attempted to make sense of during reflective dialogue. This finding aligns with a social constructivist view: knowledge is not passively absorbed but constructed through interaction and reflection.

Eight other students described critical thinking as evaluative thinking, assessing ideas based on reasoned judgement rather than subjective impressions. For example, one Fine Art student explained:

Some people might think this is good, while others might think it is not good. But why is it not good? You need to provide arguments to support your reasoning (FA-S6).

These comments indicate that students associated critical thinking with analytical judgement. Their emphasis on providing arguments reflects an awareness of evidence-based reasoning, which resonates with Paul and Elder's (2006) concern for logic and validity. However, they may have implicitly treated criticality and subjectivity as two opposing modes rather than mutually supportive ones. All thinking carries a degree of subjectivity, as personal experience, values, and cultural context inevitably shape how individuals understand and evaluate. Paul and Elder (2006) argue that critical thinking must acknowledge the influence of egocentric and sociocentric thinking. In other words, subjectivity is ever-present, but the task of critical thinking is to identify and overcome bias. Another student described critical thinking as the capacity to transcend deeply ingrained social biases. As she explained:

It is not just about criticising others. It is about stepping outside of vague things, stepping outside of prejudice and the influence of the social environment, so that you can see the essence of something (GD-S2).

From a Chinese cultural perspective, students' metaphor of "stepping outside" can also be read as the difficulty of building an independent position in a relational society. As noted in the literature review, in many educational settings, disagreement is not only a cognitive act. It is also a social act. It may be seen as disrupting harmony, challenging authority, or threatening face. As a result, students may learn to manage criticism in indirect ways. They may hide their views behind general principles. They may also shift attention away from personal judgement and towards external and recognisable standards. From this view, "prejudice" are not only personal limits. They are also

shared social constraints. They reflect common assumptions about what can be said, how evaluation should be expressed, and whose judgement is seen as legitimate. In this context, students' emphasis on grasping "the essence" shows a desire for clarity and for cognitive legitimacy. Critical thinking becomes a way to keep some distance from taken for granted norms, while remaining responsible to the wider social order. In Paul and Elder's (2006) terms, this suggests an awareness of sociocentrism. Yet here it is less confrontational in form. It is more self-regulating. It points to an adaptive kind of criticality. Another student supplemented this perspective by highlighting the metacognitive dimension of self-reflection and regulation at the individual level:

The process of reflection, that is, self-reflection, is to identify one's own shortcomings (GD-S3).

Paul and Elder (2006) describe critical thinking as "a self-directed, self-disciplined, self-monitored, and self-corrective way of thinking" (p. 12), which essentially relies on metacognitive awareness and regulation. The student elaborated further:

Critical thinking made me realise that I am not good at speaking, and I think about how to change (GD-S3).

This statement demonstrates that critical thinking enabled the student to recognise a personal limitation in verbal expression and motivated a concrete intention to improve, thereby moving beyond a familiar comfort zone. This case illustrates metacognitive functioning, involving both the identification of a constraint and the initiation of strategic change. As Zimmerman (2002) argued, self-regulated learners not only reflect on weaknesses but also take deliberate actions to improve performance. In the Chinese educational context, extended public speaking is not always routinely practised in everyday classrooms, which can make oral expression a more salient developmental challenge for students. Speaking in front of peers also carries a visible "face" risk, so critical thinking here appears to help the student reframe a potentially embarrassing weakness as a manageable problem for planned improvement rather than avoidance. Moreover, the student's proactive response reflects characteristics of a

growth mindset (Dweck, 2006), indicating that this communicative limitation is treated not as a fixed trait but as a developmental area to be advanced through critical self-reflection. In addition, students defined critical thinking in relation to problem-solving, emphasising that it serves as a tool for identifying, analysing, and improving.

You identify the negative aspect, but it also has a positive side. Later, you can develop the positive parts and improve the negative ones, this is a development from point to line to surface. (FA-S3).

This perspective illustrates students' understanding of critical thinking as problem identification and iterative improvement. Rather than treating it as an abstract skill, the student used the visual metaphor of "from point to line to surface," which reflects the step-by-step and accumulative logic of cognitive training. This metaphor highlights a progressive process: identifying flaws (point), tracing connections (line), and ultimately arriving at a more comprehensive solution (surface). This resonates with Paul and Elder's (2006) view of critical thinking as a process of reflection and self-correction, but here it is rooted in the practice-oriented culture of the studio. The student's emphasis on refinement rather than generation reveals broader cultural and pedagogical influences. Visual arts education in China often stresses iterative correction through replication and teacher-led adjustment, training students to gradually master technique. In this context, critical thinking is often equated with identifying and correcting problems rather than challenging tradition or proposing alternatives. Accordingly, the student's account underscores the convergent function of critical thinking improvement and precision, while overlooking its generative dimension. Although creativity was not explicitly mentioned, this omission reflects the educational framework rather than a conceptual absence. The focus on refinement rather than innovation aligns with descriptions in the literature of the asymmetry between creativity and critical evaluation: creativity generates different possibilities, while criticality evaluates and strengthens them through convergent reasoning (Getzels & Csikszentmihalyi, 1977; Runco, 2014; Paul & Elder, 2006).

To explore whether students could recognise the relationship between critical and creative thinking, they were asked to describe the distinction between the two. One student offered an insightful comparison:

Creative thinking is more about creating something new out of nothing. Critical thinking is more about digging deeper into what already exists; its essence is transformation (GD-S2).

This suggests that the student recognised a functional distinction between critical and creative thinking. She perceived creative thinking as connected to originality and generative processes, whereas critical thinking was understood as an evaluative and reconstructive activity. This aligns with the findings in the literature review. The student's ability to differentiate between the two modes indicates a growing metacognitive awareness of the distinct cognitive functions involved in problem-solving linking creativity with generative novelty and criticality with evaluative transformation. Another student commented:

Critical thinking, I hadn't thought of it in art before. In real life, critical thinking is more rational, while creative thinking is like innovation. (FA-S5).

However, what was absent in the accounts of both students was an explicit recognition of their complementarity. This suggests that their educational experiences may not have sufficiently highlighted the interaction between these two processes. If students primarily encounter critical thinking as an evaluative tool and creative thinking as an isolated generative activity, they may struggle to coordinate the two modes in a balanced way when addressing complex, ill-structured problems. The risk of such separation is that students may develop a fragmented conception of problem-solving, where idea generation and evaluation are experienced as discrete activities rather than as parts of a dynamic cycle. This reflects a broader issue in Chinese higher education, where learning often privileges either technical refinement or innovative production, but rarely emphasises the cognitive dialogue between the two. As a result, curricular orientations have shaped the ways in which students define critical thinking.

In addition to defining critical thinking as problem-solving, students also recognised its capacity to broaden perspectives. Their accounts suggested that critical thinking is not limited to analytical depth but also involves breadth. For example, one student remarked:

Looking at things from different perspectives helps me make wiser decisions (FA-S5).

Another student stated:

It brings me many new things, new ideas, and new insights (GD-S5).

Students' emphasis on thinking from multiple perspectives suggests that they have an intuitive understanding of this intellectual standard (Paul & Elder, 2014). Their comments show that they see critical thinking as a process that opens discussion rather than closes it down. This allows them to weigh different factors before making a judgement. This view matters because it shows that they do not treat critical thinking as simple fault-finding or harsh evaluation. Instead, they see it as an open and reflective stance. From a Chinese cultural perspective, this fits with a stronger orientation towards harmony. This style of thinking is more likely to include and connect viewpoints that may seem to conflict, rather than forcing one fixed position. This links with students' experience of gaining "new insights" through multiple perspectives (Peng & Nisbett, 1999). At the same time, it can be seen as a move away from a single-answer mindset. It treats plurality and uncertainty as part of reasoning, not as confusion or indecision. The claim that looking from different angles "brings new ideas and insights" suggests that students are starting to see how breadth supports cognitive growth. By actively bringing together different views, they rebuild their own understanding rather than passively accepting what they are given. This frames critical thinking not only as a tool for evaluation, but also as a broader way of knowing. It supports flexibility, adaptability, and the ability to deal with complexity in a constructive way.

The interviews revealed that most students associated critical thinking with evaluation and problem-solving, with fewer recognising its metacognitive or broader social dimensions (Paul & Elder, 2014; Facione, 1990). Their definitions appeared to be shaped more by personal experiences than by disciplinary training, as Fine Art and Graphic Design students expressed largely similar views. This suggests that students' conceptions of critical thinking are rooted in everyday life and cultural contexts, providing a useful foundation for examining how they believe it can be further developed through education and artistic practice.

4.2 Students' Perceptions of Pathways to Developing Critical Thinking

The previous section, in which students emphasised their understandings of critical thinking, provides important clues to understanding the diversity of students' experiences in the process of critical thinking formation. To further understand these diverse ways of understanding. This section will focus on how students described the process of acquiring critical thinking skills. This not only helps to reveal how individuals construct critical thinking through life experiences but also provides a basis for educators to identify potential gaps in teaching methods and optimise teaching strategies accordingly (Schön, 1983). The relevant responses of the students in the interviews can be broadly categorised into four groups: innate disposition, family environment, social media factors, interpersonal interactions, and educational practices.

4.2.1 Innate disposition

Some students explicitly linked the origins of critical thinking to innate personality traits. For example, one student suggested that

Some people tend to explore questions in greater depth, while others do not (FA-S3).

Similarly, GD-S5 compared children's constant "why" questions to an instinctive mode of inquiry. Such descriptions highlight the view that critical thinking is not merely a skill to be taught but a natural extension of human curiosity and scepticism.

These perspectives resonate with psychological accounts which argue that dispositions such as curiosity, open-mindedness, and truth-seeking form the dispositional basis of thinking (Perkins, Jay, & Tishman, 1993). From this standpoint, critical thinking may be regarded less as an acquired ability than as a cognitive style rooted in biological or genetic predispositions (Nisbett, 2009). Students' emphasis on children's questioning behaviour reflects this belief: spontaneous "why" questions in early childhood were perceived as evidence that critical engagement stems from human nature rather than from formal schooling.

However, although this framework acknowledges the dispositional foundations of critical thinking, it also risks conflating curiosity with criticality. As Paul and Elder (2006) contend, children remain "unreflective thinkers." While they may frequently ask questions, they lack the systematic reasoning standards required for genuine critical thinking. One student recognised this distinction, noting:

Although curiosity may be innate, critical thinking can only develop through exposure to multiple perspectives and the accumulation of experiences such as reading or social participation (FA-S4).

In other words, curiosity may be a precursor to criticality, but without reflection and intellectual training, it remains at the level of simple information-seeking. This indicates that students conceptualised critical thinking as both dispositional and developmental: personality may provide the initial tendency to question, but its maturation into critical thinking requires reinforcement through education, cultural norms, and social interaction.

4.2.2 Family environment

In the interviews, students described the family as an important early environment that shapes individual ways of thinking and personal character. A fine art student reflected on how her upbringing had limited her ability to think critically. She described her parents as the most influential figures in her life and explained that her family environment had contributed to her indecisive personality.

Since I was young, I have been used to relying on my parents' opinions. Even though I sometimes have my own ideas, I tend to seek their approval when making important decisions, so I feel it is difficult for me to make decisions on my own. (FA-S2)

This phenomenon highlights the influence of family authority structures on individual judgement and independent decision-making. In the Chinese cultural context, family dynamics are often shaped by clear hierarchies and parental dominance. According to Xia (2020), Chinese families commonly follow an authoritarian parenting style, where parents tend to control the decision-making process and place strong emphasis on obedience to elders. One of the core features of critical thinking, however, is independent judgement and decision-making ability (Facione, 1990). This style of parenting can reduce children's opportunities to practise independent choices and critical judgement. Although FA-S2 mentioned that she "sometimes has her own ideas," the key issue lies in the lack of practice in expressing and standing by personal viewpoints. Critical thinking is not only about forming opinions but also about maintaining logical reasoning, practising self-reflection, and clearly expressing one's stance in the face of differing opinions (Paul & Elder, 2014). Relying too much on parental opinions within the family may result in students having limited experience in building personal arguments and engaging in dialectical expression.

In addition, FA-S2 noted her own indecisiveness, research by Topping and Trickey (2007) further supports this link. They found that individuals who grow up in open family environments, where discussion, questioning, and reasoning are encouraged, tend to show stronger critical thinking skills. In contrast, where family cultures focus on obedience and respect for authority, children have fewer opportunities to practise questioning or analytical thinking, which increases the likelihood of developing a dependent personality (Bensley, 2018). From a psychological perspective, FA-S2's tendency to "rely on parents to make decisions" can also be seen as a risk-avoidance strategy (Kahneman & Tversky, 1979). Relying on parental opinions is viewed as a safe option that reduces the chance of making mistakes. However, this mindset of avoiding mistakes rather than pursuing the best outcome tends to weaken the

exploratory, open-minded, and dialectical dimensions of critical thinking (Brookfield, 2011). Another student also agreed with this view and gave an example:

I heard a mother asking her child what colour the leaves were. The child looked at the tree and said it was skin-coloured. The mother said it was wrong. The child then said it was mummy's colour, but the mother told the child not to talk nonsense. This reminded me of how my mother told me as a child that the sky is blue, but in the evening, there's red in the sky, too. (FA-S1)

In this student's account, we see how parents directly correct a child's answer, rejecting the child's unique way of observing the world. The child's response of "skin colour" or "mummy's colour" was in fact a personal and imaginative interpretation, but the parent did not accept this individual expression and instead imposed a "right or wrong" judgement. Topping and Trickey (2007) point out that when parents judge answers as right or wrong too early, it can suppress children's exploratory thinking, limit their openness to different possibilities, and discourage creative reasoning. Moreover, this kind of correction is not only a rejection of knowledge but also a demonstration of parental authority. When the child said, "mummy's colour," it reflected emotional association and an independent way of seeing, yet it was dismissed as "nonsense." This shows how parental authority can override individual thinking, weakening a child's confidence in expressing personal views and making independent judgements.

Bensley (2018) argues that critical thinking involves not only questioning but also appreciating diversity and challenging surface-level assumptions. A family environment that simplifies answers into a single truth reduces a child's chance to develop a more flexible and multi-dimensional way of thinking. Similarly, Halpern (2014) highlights that the openness of family interactions is a crucial social factor in developing critical thinking. When families lack open discussion and show intolerance towards different opinions, children are more likely to develop a passive acceptance of external viewpoints and lose the habit of independent analysis.

In summary, the authoritative structure of the traditional Chinese family and the parenting style that emphasises obedience have, to a certain extent, been perceived by these students to have shaped their dependent personality traits, which has potentially weakened their openness and independence of mind, and in turn inhibited the development of critical thinking.

4.2.3 Social media factors

In the interviews, one student explicitly highlighted the positive role of social media in cultivating critical thinking skills. Firstly, she noted that the diversity of information on social media enabled her to practise examining issues from multiple perspectives daily:

When I see some news on social media, I always keep a neutral attitude, because you never really know whether it is true or false. I always think about different sides of the story and try to verify some information. Although sometimes the debates are intense, I find they help me understand the logic behind each viewpoint (FA-S6).

As FA-S6 explained, when confronted with contrasting interpretations of social events online, she naturally attempted to “think about different aspects” beyond a single perspective and actively considered both sides of an issue. Compared with the often-one-sided knowledge transmitted in traditional classrooms, the plurality of viewpoints on social media encouraged her to develop a habit of analysing issues from multiple perspectives. This is highly consistent with Facione’s (1990) view that considering multiple interpretations is a core feature of critical thinking. Secondly, the student demonstrated a strong awareness of the need to question the authenticity of information. FA-S6 remarked, “You never know whether it is true or false.” This habit of verifying the reliability and sources of information aligns with Paul and Elder’s (2014) critical thinking model, particularly in its emphasis on accuracy and the evaluation of evidence. Through frequent exposure to information of varying credibility on social media, the student gradually developed the practice of verification

and resisted the tendency to accept information uncritically. Brookfield (2011) argues that cognitive dissonance is one of the most effective triggers for critical thinking, as it encourages individuals to break away from established patterns of thought and engage in deeper self-reflection.

Although some students believed that social media provided a convenient means of accessing diverse perspectives, others pointed out that media algorithms can reinforce personal biases and pose a threat to the development of critical thinking. As one student explained:

There are too many biases in everyday life. You'll find that whatever you like, the platform (social media platform) will just show you more of it. After watching repeatedly, you eventually only believe your own view (GD-S5).

This example illustrates the typical effect of the filter bubble that algorithms driven by big data recommend similar types of content based on users' interests and browsing habits, resulting in limited sources of information and a narrowing of perspectives (Pariser, 2011). This directly reduces opportunities for exposure to differing or opposing viewpoints, hindering the development of open-mindedness and the ability to compare multiple perspectives, both of which are central to critical thinking (Lai, 2011). Algorithmically curated content can also reinforce confirmation bias, whereby individuals prefer information that supports their existing beliefs while ignoring or rejecting opposing views (Nickerson, 1998). Prolonged exposure to homogenised content can create closed cognitive loops, making it more difficult for students to sustain the scepticism and reasoning skills necessary for critical thinking. However, from another angle, the fact that some students were able to recognise and articulate these risks itself demonstrates their awareness of bias and their capacity for reflective critique. This suggests that even without explicitly referring to the concept of critical thinking, students were already developing such skills in practice through their observations of everyday life.

4.2.4 Interpersonal interactions

Like social media, students also believe that real-life interpersonal interactions can foster critical thinking.

When looking at problems, there may not always be a right or wrong answer. Everyone simply has different choices and ways of seeing things. (FA-S2)

Firstly, he was able to recognise that problems often go beyond simple binary oppositions, which indicates that his thinking had already touched upon the complexity and uncertainty of issues core characteristics of critical thinking (Paul & Elder, 2014). This awareness suggests that he was no longer satisfied with surface-level, conclusive judgements, but instead began to view different perspectives as relatively reasonable interpretive frameworks, thereby opening a more inclusive cognitive space (Facione, 1990). Secondly, this expression also demonstrates a reflective tendency in his thought process: by acknowledging differences, he was in fact questioning the existence of a single correct answer, which pushed him towards deeper reasoning, that is, seeking logical connections and evidential support within complexity (Kuhn, 1999). Thus, his statement not only shows tolerance for diversity, but also reveals the possibility of moving from the juxtaposition of viewpoints to deeper cognitive inquiry in the development of critical thinking. This shift from acknowledging difference to exploring complexity reflects the growth of depth in critical thinking. Another student provided an example of such a shift in thinking. She described how casual conversations with friends, such as watching television or visiting art exhibitions, helped her to move beyond fixed aesthetic preferences:

I might realise that my friends could enjoy these works, so I ask for their different opinions. (FA-S4)

FA-S4 did not passively accept others' opinions, but actively sought out divergent perspectives. This process reflects her conscious awareness of cognitive limitations, namely, the recognition that her personal aesthetic judgement might not be sufficient,

and that she needed to draw upon others' perspectives to broaden her thinking. Such behaviour constitutes a form of evidence-gathering and argumentative expansion, showing that her critical thinking had moved from surface-level "acknowledging diversity" to a higher level of reasoned judgement (Paul & Elder, 2014). At the same time, this practice also involved metacognitive regulation: by comparing her own preferences with those of others, she was able to reflect upon and adjust her intuitive judgements, thereby avoiding the egocentric bias (Kuhn, 1999).

Another student described the exchange of different perspectives as "stepping out of the comfort zone" (FA-S3). This suggests that engaging with diverse viewpoints functions as a concrete pathway through which students develop critical thinking. The "comfort zone" framing indicates that the development process is not friction-free: it involves tolerating uncertainty and staying in dialogue even when disagreement feels uncomfortable. In this sense, critical thinking is cultivated through repeated exposure to difference, where students learn to articulate reasons, listen to alternatives, and refine their views. At the same time, the expression points to a form of metacognitive self-regulation. The student recognised that staying silent could limit his reasoning development, and he therefore treated participation as a deliberate strategy to strengthen both expression and judgement. He also became aware that being overly straightforward might affect others, which suggests ongoing monitoring of how his thinking is communicated and received. Together, these accounts imply that critical thinking is developed not only through learning ideas, but through practising dialogue: managing discomfort, adjusting communication, and using interaction to test and revise one's assumptions. This process reflects the cultivation of key critical thinking dispositions, such as openness and intellectual courage (Paul and Elder,2006), through interaction rather than through abstract instruction alone. The student explained:

Interacting with people from different cultural backgrounds has challenged my views. For example, I used to believe certain behaviours were 'correct,' but after engaging with people from other cultures, I realised that ways of viewing problems can be completely different. (FA-S1)

FA-S1 initially believed that certain behaviours were correct. After engaging with people from different cultural backgrounds, he came to see that standards of judgement are not universal truths. They can depend on cultural contexts. This shift is not simple information gain. It shows disruption and rebuilding at the level of his cognitive frame. In Paul and Elder's framework (2006), the intercultural encounter makes his "correct" claim visible as an assumption. It also reveals that his judgement is guided by taken-for-granted standards. The key change is that he begins to treat these assumptions and standards as objects for examination, rather than as fixed starting points. He moves from assuming correctness to treating beliefs as testable hypotheses. This is also a shift in point of view. He recognises that a different cultural lens can change what counts as reasonable or appropriate. The value of intercultural interaction is therefore not only that it offers alternative perspectives, but that it prompts students to uncover the cultural logic behind ways of thinking and valuing. It encourages the intellectual standard of breadth, because he must consider more than one frame before reaching a judgement. It also calls for fairness, because he is pushed to evaluate views without defaulting to his original norm as the only benchmark. Therefore, FA-S1's experience was not merely about "seeing something different". It shows how intercultural contexts can challenge deeply rooted assumptions and move students towards more reflective reconstruction of judgement. It also initiates a more critical form of self-examination.

In addition, cross-cultural experiences enhanced students' cultural humility. This attitude is not only reflected in respecting different forms of cultural expression. It also involves reflective awareness of one's own limits and openness to learning (Hook et al., 2013). Within Paul and Elder's framework, this resembles intellectual humility. Students accept that their knowledge and standards may be partial. As Facione (1990) suggests, open-mindedness is a core dispositional trait of critical thinking. It involves a positive acceptance of complexity, ambiguity, and uncertainty. During intercultural encounters, students must adjust their viewpoints and manage the discomfort caused by difference. This also requires intellectual empathy. They try to understand how others reason within their own cultural context. This process gives students opportunities to practise reflective judgement in moments of tension. It helps them build a more inclusive and flexible approach to critical thinking when facing diversity.

However, an alternative view was expressed by one student, who believed that only deeper and more meaningful cultural exchanges could truly challenge entrenched traditional thinking frameworks. The student gave an example, explaining:

When I travelled to Tibet and learned about their butter lamp ceremony, it did not significantly change my perspective, as I did not understand its cultural origins. (GD-S5)

However, as GD-S5's experience illustrates, intercultural interaction does not necessarily lead to deeper levels of critical thinking. When he encountered the butter lamp ceremony in Tibet, he did not undergo a significant cognitive shift, largely because he lacked an understanding of its cultural origins and underlying value system. This suggests that intercultural encounters, if confined to surface-level observation, may result merely in awareness of cultural difference without challenging deeply rooted assumptions. In other words, intercultural contexts alone are insufficient; what is crucial is whether they are accompanied by critical reflection and meaning making. Mezirow (1997) emphasises that genuine perspective transformation arises from a profound interrogation of one's own assumptions rather than from passive cultural exposure. Similarly, Brookfield (2011) argues that meaningful cognitive restructuring requires systematic self-examination. GD-S5's reflection supports this view: when cultural differences are not deeply explored, individuals may not only fail to broaden their thinking but may even reinforce existing biases or cultural egocentrism at a superficial level of understanding (Ting-Toomey, 1999). Therefore, if intercultural education is to foster critical thinking, it should avoid remaining at the level of shallow cultural experiences and instead guide students to explore the underlying values, logics, and belief systems of cultural phenomena, thereby enabling them to develop deeper reflection and more inclusive understanding through engagement with difference and conflict.

4.2.5 Educational practices

Most students indicated that they developed critical thinking through reading, teacher guidance, and engagement in artistic practice or assignments. One student remarked:

Our teachers often recommend books for us to read, and these books are based on philosophical ideas that explore humanity and life. (GD-S6)

Another student referred to a book on visual rhetoric, noting that it had a strong influence on her way of thinking:

This book constantly critiques earlier ideologies and even contemporary social phenomena. Although it does not directly define critical thinking, this mode of thought has always surrounded me. (GD-S2)

These responses suggest that critical thinking is not always cultivated solely through formal instructional interventions but can also emerge from the intellectual culture fostered by teachers in the classroom. Texts that interrogate cultural assumptions can implicitly nurture critical thinking even without explicit guidance. As Beach and Myers (2001) argue, literature, by immersing readers in moral dilemmas and diverse social realities, exposes students when recommended by teachers to dispositions associated with critical thinking: openness to alternative perspectives, resistance to superficial interpretations, and willingness to question assumptions. In this way, students are encouraged to challenge dominant ideologies and to consider other viewpoints. At the same time, books such as those on visual rhetoric often require readers to engage with symbolic meanings, metaphorical expressions, and complex discursive structures. Interpreting these elements necessitates skills of reasoning and conceptual analysis (Paul & Elder, 2014). From this perspective, reading is not a peripheral activity, but rather a supplementary site of thinking that reinforces the idea that critical engagement in art education transcends mere technical or aesthetic judgement, encompassing philosophical, cultural, and ethical reflection.

One student shared an example of how critical thinking was encouraged in class. She recalled that discussions about the COVID-19 pandemic were usually focused on its negative impacts, such as illness, social isolation, and economic disruption. However, her teacher encouraged the class to also consider its positive aspects:

It prompted us to make wider use of online platforms, which facilitated the development of the internet and the streaming industry, and even gave rise to new industries. (GD-S5)

Although teachers did not always explicitly label or guide critical thinking strategies, this example shows that carefully considered pedagogical prompts can implicitly cultivate such skills. What is particularly significant here is that the teacher's intervention disrupted the students' default, one-dimensional focus on the negative. In doing so, it reflects what Paul and Elder (2014) describe as fostering breadth and fairness considering issues from multiple perspectives rather than relying on a single, emotion-driven narrative. This practice illustrates how teaching frameworks can subtly yet powerfully shape students' patterns of reasoning, even when the course is not explicitly designed to emphasise critical thinking. From an educational perspective, students often tend to interpret artworks through a singular lens whether emotional, technical, or cultural. By training them to re-examine seemingly fixed issues such as the pandemic from multiple perspectives, teachers can help them approach artistic problems with the same openness, questioning stance, and integrative analytical capacity. In this sense, classroom prompts not only address the immediate topic at hand but also nurture students' dispositions towards critical thinking, extending these habits into their creative practice and critical engagement with art.

However, student pointed out that in certain contexts, education can in fact constrain the development of critical thinking. The student gave an example:

You do not make decisions yourself; instead, you follow the teacher's instructions. This situation extends to working for clients, where you simply follow their requirements without injecting too many of your own ideas. Your abilities and ideas are entirely built within the client's framework. (GD-S5)

This account illustrates that when external authorities define both the problem and its solution, learners may internalise a pattern of compliance rather than inquiry. In such cases, critical thinking does not disappear entirely but is redirected towards meeting

externally imposed standards, rather than fostering independent judgement. Put differently, what develops is a form of technical reasoning confined within pre-set boundaries, while broader dispositions, such as questioning assumptions, setting one's own goals, and exploring alternative perspectives are weakened. As discussed in Chapter 6.1, several students recognised flaws in their reasoning but struggled to progress further. Paul and Elder (2006) describe this stage as that of the “challenged thinker” (p50-55), reflecting how institutional demands such as grades, performance metrics, or commercial objectives can restrict opportunities for sustained metacognitive reflection. Consequently, while students may demonstrate precise analytical skills in meeting the requirements of teachers or clients, they lack the freedom to practise the higher-order dimensions of critical thinking, such as setting independent purposes, interrogating frameworks, and evaluating broader implications. This highlights the paradox that education, while expanding knowledge, may simultaneously cultivate dependency on external authority, thereby constraining the autonomy that critical thinking is intended to develop.

4.3 Teachers' understanding of the definition of critical thinking

Like students' perspectives, most teachers describe critical thinking as an evaluative way of thinking. However, teachers also highlight its cognitive value, a sense of social responsibility, and its role as a reflective practice in everyday life.

One teacher described critical thinking as “a way of making cognitive value judgements” (GD1). Values can be understood as shared beliefs about what is important, right, and worth pursuing (Schwartz, 1992). They shape how people judge right and wrong, beauty and ugliness, and what counts as a reasonable choice. Importantly, in many cases values do not appear as explicit statements. They operate subtly and often go unnoticed. In the Chinese context, value assumptions may be shaped by role norms and relational obligations. Ideas about proper conduct, respect for authority, and reciprocity can quietly become the standards people use to judge what is right, what is gained, and what is lost. The teacher's account therefore goes beyond treating critical thinking as a purely logical skill. It frames critical thinking as a tool that makes implicit values visible and open to examination. In Paul and Elder's

terms, this involves identifying hidden assumptions, including value assumptions, and then judging them against explicit standards rather than habit or social expectation (Paul & Elder, 2014). This is why questions such as “Why do I hold this belief?” and “What standard am I using here?” become crucial. They help students recognise that what seems like a universal truth may reflect cultural, educational, or social constraints. This supports a more reflective stance towards knowledge and meaning making. As discussed in Section 4.1, some students begin to treat their own value positions as something to be examined.

According to another graphic design teacher, critical thinking is regarded as a cognitive skill that can enhance social responsibility:

Critical thinking is about identifying and critiquing social issues; we place greater emphasis on reflecting on these problems. (GD3)

This teacher primarily taught information design, a course that requires students to investigate social information and identify existing issues. His understanding of critical thinking is therefore closely tied to the nature of his discipline, directly linking it to the recognition and critique of social problems. For him, the central function of critical thinking is to question and expose injustice and irrationality within society, positioning it as a form of social critique (Brookfield, 2011). In his view, critical thinking extends beyond the isolated evaluation of arguments or artworks; it becomes a means of examining the broader conditions that shape individual lives and actions. This reflects a wider educational goal: by teaching students to critically assess social issues, educators can cultivate in them a stronger awareness of their social roles and responsibilities. Such an understanding suggests that critical thinking is inseparable from moral and civic engagement, making it a tool for fostering a sense of active and responsible citizenship. At the same time, the teacher also recognised a potential obstacle, namely students limited or literal understanding of the term critical thinking. As he noted:

Critical thinking is not just about criticism, so its translation, its surface meaning, may influence how we understand it. (GD3)

This highlights the risk of linguistic and cultural misinterpretation in the Chinese context, where the term “批判性” (critical) may be narrowly understood as negative criticism. Such a misunderstanding could restrict students’ ability to grasp the constructive, reflective, and socially responsible dimensions of critical thinking, reducing it to a superficial practice of fault-finding rather than a deeper inquiry into values and social structures.

Two other teachers emphasised that critical thinking plays a key role in enhancing students’ problem-solving abilities. One teacher explained:

Critical thinking helps us recognise that when solving problems, there may be more than one correct answer. (GD1)

Another teacher added:

Critical thinking influences our understanding of objective matters. We need to verify information, because different perspectives can lead to different decisions, and those decisions will directly affect the final solution. (GD2)

These comments contrast with students’ references to problem-solving, as the teachers understood critical thinking not merely as finding solutions, but as a way of addressing the uncertainty and complexity inherent in real-world problems. In such contexts, individuals are confronted with fragmented information, conflicting viewpoints, and tensions arising from underlying values and assumptions. The core contribution of critical thinking lies in providing learners with a systematic, evidence-based, and rational framework for making judgements under these conditions (Paul & Elder, 2014). In other words, critical thinking is not aimed at producing a single correct answer, but at constructing a coherent, reasonable, and contextually appropriate line of reasoning. From this perspective, critical thinking promotes structured reasoning by

requiring learners to clarify assumptions, articulate their reasoning clearly, and test logical consistency at each stage (Paul & Elder, 2014). Such an approach reduces errors caused by unexamined assumptions or logical gaps, while cultivating intellectual habits that extend beyond specific classroom tasks. By weighing competing evidence, students can learn to distinguish between claims driven by emotion, bias, or stereotypes, and those grounded in facts and rational argumentation.

Both fine art and graphic design teachers highlighted how critical thinking is embedded in everyday life. A fine art teacher described critical thinking as

A natural habit of thinking in daily life,” a habit that, in his view, stemmed from his sensitivity to flaws within social systems: “I have high expectations of social systems; I want them to be flawless. In this situation, critical thinking naturally emerges, doesn’t it? (FA1).

This description illustrates how his pursuit of ideal standards kept him constantly prepared to notice contradictions, shortcomings, or gaps between ideals and reality. Such a stance is consistent with Brookfield’s (2011) concept of everyday critical thinking, which suggests that ordinary experiences can trigger reflective analysis, and with Paul and Elder’s (2014) argument that the aim of critical thinking is not the mere completion of tasks but the cultivation of lifelong reasoning habits that can shape decision-making, social relations, and participation in cultural and political life. His emphasis on attentiveness to imperfection resonates with Halpern’s (2014) observation that critical thinking often begins with questioning taken-for-granted assumptions. His perspective also echoes Paul and Elder’s (2014) claim that advanced critical thinkers are characterised by their capacity to detect hidden problems. From this angle, FA1 positions critical thinking as a value-driven process, indicating that his practice of critical thinking is inseparable from normative commitments to fairness, reasonableness, and meaningful outcomes, consistent with Facione’s (1990) broader framework.

A graphic design teacher, by contrast, situated critical thinking in opposition to habitual or fixed modes of thought. She explained:

Habitual thinking means we use our own perceptions to think about things. But critical thinking may be more rational, enabling us to think from different perspectives (GD1).

Her view emphasised that unreflectively relying on prior perceptions and automatised responses limits one's openness to new insights. In her terms, habitual thinking represents a form of cognitive inertia: individuals repeat familiar reasoning patterns without questioning their assumptions, thereby restricting both the depth and breadth of their problem-solving. This interpretation resonates with Dweck's (2006) theory of fixed mindsets, which argues that when individuals perceive abilities and knowledge as static, they are less inclined to revise or expand their understanding. By contrast, GD1 positioned critical thinking as an active process of rational reflection and perspective-taking, aligned with Paul and Elder's (2006) intellectual standards of breadth, depth, and fairness. Her comments indicate that practising critical thinking requires learners to step outside their automatic frames of reference and deliberately test their reasoning against alternative perspectives, thereby transforming cognition into a reflective and dialogic practice.

These two accounts highlight complementary aspects of how critical thinking operates in everyday life. FA1 underscores critical thinking as a natural disposition shaped by value commitments and sensitivity to imperfection, showing how expectations about social systems can trigger reflective questioning. GD1, meanwhile, stresses the cognitive dimension of resisting automatised, habitual thought, and the centrality of rational evaluation from multiple perspectives. In this sense, critical thinking functions as both a value-laden orientation towards improvement and a methodological practice of reflection, enabling learners to navigate complex social and artistic realities more broadly, fairly, and meaningfully.

4.4 Teachers' Perceptions of Pathways to Developing Critical Thinking

One teacher believed that the success of later education depends on maintaining the natural critical thinking abilities that children possess. She argued that while critical thinking may be innate, different educational environments can gradually weaken this ability. She shared an example from her own family experience:

You can observe a phenomenon in children: they constantly ask “why.” Why does the moon follow people? Why is this flower this colour? My daughter often asks me all kinds of questions, but when the questions keep piling up, adults may lose patience or simply lack the knowledge to answer them. This means there is no space for children to keep asking questions. (GD2)

When children ask questions or seek explanations, adults’ impatience or inability to respond may unintentionally suppress children’s curiosity and reflective thinking. Over time, this can reduce their habit of questioning and weaken the development of critical thinking. As Brookfield (2011) argues, the development of critical thinking requires an environment that encourages questioning and reflection, and negative responses can inhibit this growth. In China, this dynamic is often shaped by both cultural expectations and educational pressure. In many families, adults may place greater value on compliance and efficiency (Ren et al., 2024), especially when academic success is closely tied to examinations and measurable results. Under these conditions, children’s questions that seem unrelated to schoolwork may be ignored.

Teachers occupy a dual role as both educators and parents. They recognise that a key challenge for higher education is to reignite students’ sensitivity to problems and to rebuild habits of active thinking. If students have lacked support for questioning in early years, university teachers are not only responsible for teaching academic content. They must also help students rebuild a classroom identity in which questioning is legitimate and valued. In Paul and Elder’s terms (2006), this means creating space for students to question assumptions, clarify meanings, and provide reasons, rather than

treating knowledge as fixed truths that must be accepted. Therefore, the importance of critical thinking in higher education lies not only in extension, but also in reactivating and reconstructing abilities that may have weakened during earlier stages of education.

The teacher further expanded on this point, observing a clear contrast between young children and university students. While younger children are naturally curious and ask questions freely, university students are often reluctant to question or seek clarification. As she noted:

When students don't ask questions themselves, I ask questions for them. (GD2)

In her view, questioning is not only an outward manifestation of critical thinking but also one of the key pathways through which it is cultivated. She emphasised that without the drive of inquiry, it is difficult for students to engage in deeper thought or exercise independent judgement. Her approach reflects a common strategy in university teaching, whereby instructors deliberately create simulated questioning scenarios to stimulate students' cognitive responses. As Brookfield (2011) points out, many university students are reluctant to ask questions, often due to a lack of confidence or fear of making mistakes. In such cases, the teacher's role extends beyond merely answering questions to include the creation of meaningful ones. By introducing challenging and thought-provoking questions, teachers can encourage students to engage with knowledge more critically and foster habits of inquiry and scepticism. This practice of structured questioning has been widely recognised as an effective strategy for developing students' critical thinking skills (Paul & Elder, 2006). For instance, in problem-based learning (PBL) contexts, students are confronted with ill-structured problems that require them to clarify the problem, generate hypotheses, and collaborate in seeking evidence. These processes rely on questioning the problem itself as well as the assumptions underlying potential solutions, thereby enhancing critical thinking (Hmelo-Silver, 2004; Savery, 2006). In this way, structured questioning is not merely a teaching strategy but forms the foundation of a pedagogy that systematically integrates inquiry with the construction of knowledge.

However, this approach also reveals an underlying concern: when students become too reliant on teachers to initiate questioning, their own motivation for independent inquiry may diminish. For example, in one observed fine art class, students rarely asked spontaneous questions during critique sessions, waiting instead for the teacher to identify issues in their work before responding. From the perspective of Paul and Elder (2006), this suggests that students may remain at the stage of passive thinkers, failing to transition into practicing thinkers. They have yet to recognise the central role of questioning within the thinking process and lack the training to transform personal experiences into active inquiry. Therefore, GD2's emphasis on creating space for questioning should not be seen as a superficial teaching technique, but as a deeper critique of the current classroom culture in higher education. Only in a learning environment that encourages questioning and treats mistakes as a natural part of learning can students reconnect with their natural curiosity and genuinely develop critical thinking skills.

Other teachers also acknowledged that while critical thinking may have some innate elements, they believed it is primarily shaped by environmental and experiential factors. One teacher commented:

Natural ability plays only a small part; most of it comes from experience. (FA1)

He further explained that reflective practice within the educational environment is a key mechanism for developing critical thinking:

Reflection helps you to think critically, helps you to decide whether you should question something, and allows you to choose what knowledge to retain, what is useful, and to confidently discard that which is not. (FA1)

From this perspective, critical thinking is not seen as a fixed trait, but as a skill that develops through deliberate engagement with one's own reasoning and creative decisions. Teachers believed that environments which encourage students to routinely reflect on their work rather than simply follow standard procedures are more likely to

foster independent judgement. In creative disciplines, where there are fewer absolute answers, the ability to reflect critically on one's choices becomes essential. This understanding aligns with educational research that highlights reflection, questioning, and adaptive thinking as key mechanisms in the growth of critical thinking skills (Dewey, 1933; Schön, 1983; Brookfield, 2011; Halpern, 2014).

In addition to academic background and professional training, one teacher particularly emphasised the important role of everyday decision-making in the development of critical thinking. She pointed out that even seemingly simple choices in daily life, such as buying clothes or choosing food, involve significant amounts of reasoning and judgement. As she explained:

In daily life, like clothing, food, housing, and transport, right? If it's something related to our lives, like buying clothes, I may evaluate the style and colour to see if it suits me or not. Sometimes this kind of critical thinking is influenced by personal experiences, work environment, and income level. (GD1)

The teacher's example illustrates that everyday decision-making is not simply an expression of personal preferences but is deeply embedded in an individual's past life experiences and social background. As she mentioned, factors such as "personal experiences, work environment, and income" subtly shape the cognitive framework and value orientation that guide her daily judgements. This observation echoes the argument by Silva and Rogoff (2021), who emphasise that the development of critical thinking does not occur in isolation but is deeply rooted in a person's socialisation process. This understanding also aligns with Lipman's (2003) perspective on the everyday nature of critical thinking. Lipman suggests that critical thinking is not limited to academic training but develops through individuals' ongoing engagement with real-life dilemmas, decisions, and choices. Each act of judgement and decision-making in response to everyday situations serves as a form of critical thinking practice, making daily life a key arena for cultivating these skills.

More specifically, personal life experiences significantly influence problem sensitivity that shaping what individuals perceive as worthy of attention and the standards they apply to determine what is “better” or “more appropriate.” For example, individuals with diverse cultural or professional experiences are often able to evaluate the same decision, such as buying clothes, from multiple perspectives, including social norms, economic value, and identity expression. These judgement patterns, shaped by life experiences, enable individuals to filter information more effectively, reconstruct decision-making criteria, and broaden their reasoning strategies in everyday contexts. Those with more varied life experiences tend to be more conscious of their own biases, more likely to question whether their reasoning is sound, and more attentive to overlooked factors. In contrast, individuals with more limited experiences or reduced social exposure are more prone to habitual, automatic decision-making, making it harder for them to critically examine or revise their cognitive frameworks.

Like students, teachers also highlighted intercultural experiences as an important socialisation pathway for developing critical thinking. This influence does not come from the passive absorption of a single cultural value system but emerges through sustained intercultural comparison and cognitive dissonance, which stimulate deeper shifts in thinking.

The freedom given by my supervisor was significant; it suddenly felt very different from classes in China. You had to rely entirely on yourself to think.
(GD4)

As teacher GD4 recalled, the most significant impact of studying abroad was not learning a particular “correct” way of thinking but being prompted to deeply reflect on personal thinking habits when confronted with different cultural expectations and role identities. In particular, the shift from passive reception to active knowledge construction made him realise that thinking must be self-initiated and accompanied by active questioning and clear articulation of one’s own position. Mezirow (1997) referred to this process as perspective transformation, arguing that when individuals are placed in cultural or cognitive contexts that conflict with their previous experiences,

their established thinking frameworks are disrupted, triggering critical reflection and leading to a reassessment of their worldview, learning approaches, and even personal values. The key factor in this process is not cultural difference itself, but how consciously individuals examine and reconstruct their assumptions and reasoning patterns.

Unlike brief cultural exposure, long-term intercultural learning offers sustained cognitive friction. As GD4 described, being continuously immersed in environments with different academic norms and expectations constantly challenged his cognitive comfort zone. This not only prompted reflection on classroom interaction styles but also on knowledge standards, authority relationships, and learning autonomy (Marginson, 2014). Such a prolonged and in-depth reflective process is more likely to reshape an individual's fundamental attitude towards knowledge and learning, thereby fostering a more stable disposition towards critical thinking.

Additionally, intercultural experience can enhance cognitive complexity. According to Tadmor et al. (2012), long-term intercultural exposure significantly improves individuals' ability to integrate diverse perspectives and tolerate cognitive contradictions. This growth in cognitive complexity is reflected not only in greater mental flexibility but also in stronger critical thinking skills, enabling individuals to actively identify multiple viewpoints and avoid relying on singular answers or habitual patterns of thought when addressing complex issues (Tadmor et al., 2012).

4.5 Conclusion

I examine students' and teachers' conceptual understandings of critical thinking in this chapter. I address the research question of how these two groups define the concept and how they view the development of critical thinking. I also show that these understandings are shaped by how judgement, authority, and acceptable forms of expression are organised within Chinese education and social life.

Across both painting and graphic design, I found that students tended to describe critical thinking in personal and experiential terms. They often presented it as an

evaluative way of thinking that helps them make reasoned judgements, improve their work, and reflect on themselves. Many students also stressed the need to recognise bias and to think from multiple angles. I interpret these accounts as evidence of students' engagement with Paul and Elder's (2006) elements, especially assumptions, points of view, and information. Students repeatedly noted that they first needed to notice what is taken for granted, and then broaden their perspectives before making a judgement. Their emphasis on multi-perspectival thinking also echoes the intellectual standard of breadth. Students referred to being open rather than insisting on a single absolute position, which they associated with the inclusiveness of Chinese traditional culture. They also described critical thinking as stepping outside the influence of social bias and constraint. This suggests that critical thinking is seen as a challenge, because it involves facing problems and paying a social cost when expressing different opinions. In this sense, I treat critical thinking here as not only a cognitive act, but also a social act.

I found that teachers generally agreed that critical thinking involves reasoned judgement and evaluative thinking, but they more often extended it to social and ethical dimensions. Some teachers argued that critical thinking should not only ask whether an idea is sound, but also question what it does in the real world. They linked critical thinking to the social function of art, cultural reflection, and responsibility. I read this as closely aligned with Paul and Elder's focus on implications and consequences, and with standards such as fairness and breadth. Teachers also introduced a cultural layer through their attention to values. They implied that many judgements rest on implicit value assumptions shaped by cultural norms and educational traditions. From this angle, I treat critical thinking as a tool that makes value commitments visible and open to examination. This helps me explain why students described critical thinking as a challenge to social bias and constraint.

In terms of development, I found that students tended to describe critical thinking as both personally driven and socially shaped. They highlighted temperament, lived experience, and reflection, and they repeatedly presented interaction as a key condition. Peer discussion, feedback, and encounters with difference helped them notice assumptions and recognise alternative points of view. At the same time, their accounts

suggest that social and family constraints can affect how critical thinking is practised. By contrast, I found that teachers placed more emphasis on pedagogical and institutional responsibility. They argued that critical thinking can be fostered through deliberate practice, structured questioning, guided comparison, and reflective tasks. I see this as closer to Paul and Elder's emphasis on systematic attention to the elements of thought, supported by standards such as clarity, depth, and logical consistency. Overall, I use Paul and Elder's framework to clarify what participants attend to in their reasoning. Building on these findings, I turn in the next chapter to examine how these understandings are translated into artistic creation and critique.

Chapter 5: The Role of Critical Thinking in Art

The previous chapter examined how students and teachers understood critical thinking and how they believed it develops. Building on that conceptual foundation, I turn in this chapter to the practical role of critical thinking in art learning and creative practice. I analyse how teachers and students in Chinese higher visual art education describe using critical thinking in creative production, aesthetic judgement, and teaching. I also compare accounts from fine art and graphic design to show how disciplinary contexts shape what counts as critical thinking in practice. To guide interpretation, I use Paul and Elder's framework as a sensitising lens, focusing on elements such as purpose, question at issue, information, assumptions, and implications.

This chapter has two main sections (see Figure 5.1). The first explores how critical thinking is enacted during the creative process, especially in idea generation, judgement, and decision-making. The second examines critical thinking in artistic reflection and critique. It considers how students evaluate their own work and interpret the work of others, and it draws on classroom observations to show how these perspectives are performed in studio work and class interaction. I begin with teachers' accounts of how concepts should emerge from personal experience and creativity, and I then extend the analysis through students' artworks and reflections. This structure allows me to distinguish between generative thinking in making and reflective evaluation in criticism, and to show the multidimensional role of critical thinking within arts education.

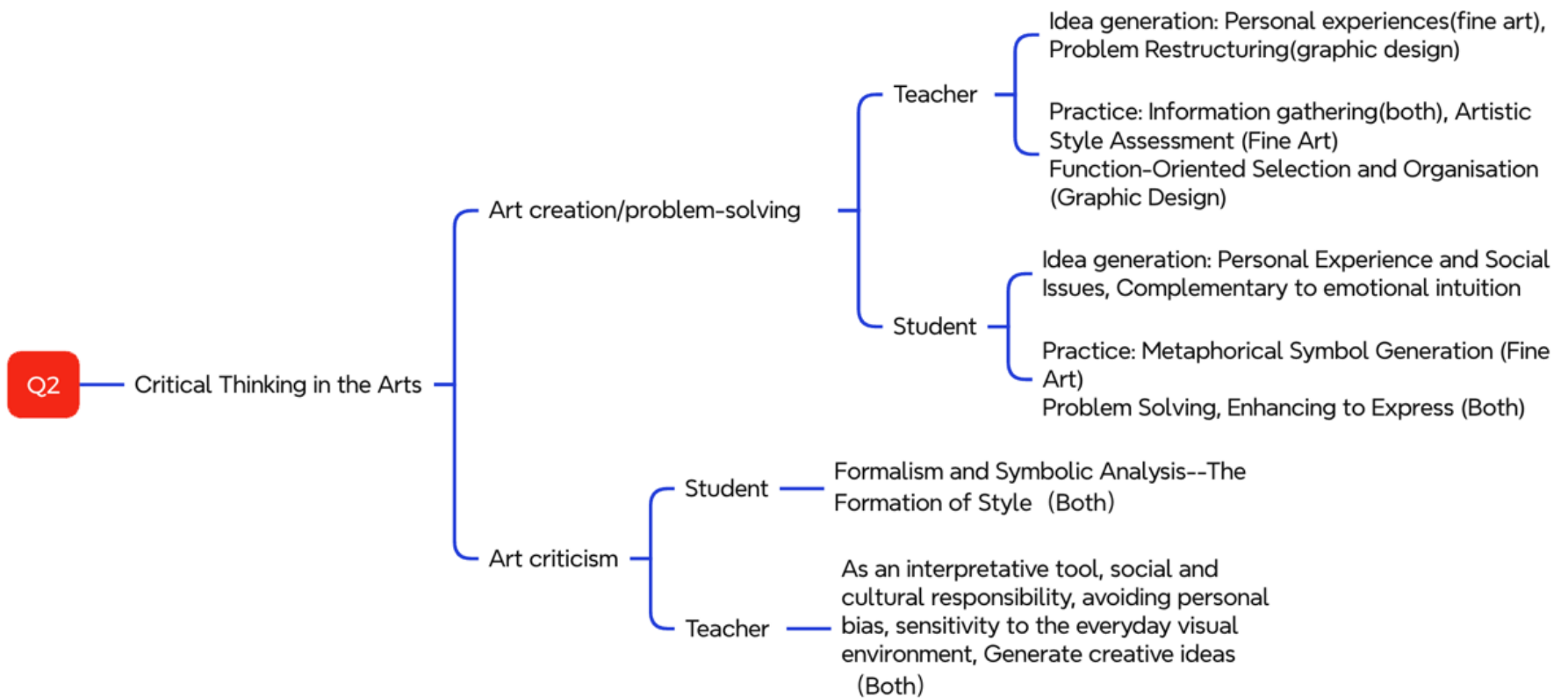


Figure 5.1 Critical thinking in the arts: Student and teacher perspectives (Q2)

5.1 Critical Thinking in the Creative Process

Nearly all the interviewed students and teachers, whether from fine art or graphic design backgrounds, consistently identified two key areas where critical thinking was perceived to play a central role: the process of artistic creation and the practice of art critique. This section focuses on their understanding and application of critical thinking within the creative process.

Both teachers and students generally agreed that artistic creation was fundamentally a process of identifying and addressing problems. However, unlike disciplines such as mathematics, where problems often have standard methods and singular answers, art is characterised by open-ended and diverse outcomes. This view is also supported in the literature. Getzels and Csikszentmihalyi (1976) argued that artistic practice is primarily centred on problem finding rather than straightforward problem-solving. Similarly, Sawyer's (2012) eight-stage model of creativity describes the creative process as progressing through phases such as "problem finding," "immersion," and "insight" in the early stages, followed by "implementation" and "dissemination" in the later stages (p. 96). Students and teachers interviewed in this study believed that critical thinking plays different roles throughout these stages. In the early phases, they felt it supported idea generation by helping creators clarify their thoughts and define direction amidst uncertainty. In the later practical stages, critical thinking was more focused on decision-making regarding execution and expression, providing a rational foundation for choices about form, content, and presentation.

5.1.1 Graphic design vs fine art teachers' perspectives on critical thinking in art creation

Creative ideation and concept formation stage

The teachers' perspectives can be related to Wallas's (1926) model of the creative process, particularly the stage of problem discovery, although they did not explicitly use such terminology. One fine art teacher described how critical thinking enables

students to identify issues within personal and social life and transform them into artistic themes:

Personal life experience is very important. Sometimes it is through the environment in which we live that we cultivate a critical perspective to observe phenomena and discern the essence of things. Only when we understand these can we reflect them in our artworks. (FA1)

On this basis, I interpret the process as:

personal experience → critical thinking → theme construction

It reflects a point repeatedly emphasised by several teachers that critical thinking serves as a mediating force in transforming life experience into creative originality.

This highlights that artistic creation is not merely a technical execution, but a continuously developing and activated cognitive process in which critical thinking mediates between lived experience and theme construction. In teacher FA1's view, critical thinking performs two functions. First, problem discovery: students cultivate a sensitivity to imperfections or tensions in everyday life and transform these into pertinent issues (Wallas, 1926; Brookfield, 1987). Second, meaning making they re-encode experience into information and concepts, articulate their assumptions and viewpoints, and employ abduction or analogy to propose an initial framework for their work (Paul & Elder, 2014). From this perspective, "inspiration" is not a spontaneous revelation, but a natural attribute arising from sustained engagement, deliberate preparation, and reflective dialogue with materials, contexts, and audiences. This also explains why works that stem from socially or personally significant issues often combine both expressiveness and originality, as artists continuously connect purpose with meaning and refine their inferences amid uncertainty.

FA1 further emphasised the importance of exploring personal life experience as a key source of inspiration during this stage of learning. In his view, inspiration often

emerged through a conscious exploration of real life, were personal encounters and social realities shape artistic expression. As he explained:

There was an artist who physically went out to search for inspiration. He worked and lived alongside miners. Every day. That was Mr Wang Gang. He painted farmers, miners, working-class people. So, these kinds of works, grounded in real life, can be incredibly vivid and powerful. (FA1)

This suggests that when critical thinking is grounded in personal and social reality, it can deepen the connection between the artist and the subject, and in doing so strengthen artistic expression. In Paul and Elder's framework, attention to real life can strengthen the element of information. It can also clarify the artist's purpose and point of view, because direct engagement with a community helps to explain what the work is trying to express and from where it speaks (Paul & Elder, 2006). It helps the artist examine assumptions about people and places, draw more warranted inferences, and consider the implications of how a subject is represented (Paul & Elder, 2006). In this sense, emotion, empathy, and authenticity are not opposed to critical thinking. They are developed through richer information, clearer purpose, and more responsible judgement. This emphasis can also be read within the cultural and institutional background of Chinese art education. Tracing back to the mid twentieth century, teachers have often treated lived experience and social observation as legitimate sources of artistic meaning, shaped by the view that the life of the people is the source and raw material of literature and art (Mao, 1942). In this way, critical thinking is not only abstract questioning, but an inquiry into the origin of an image, the social experiences that ground it, and the intention behind its representation of reality.

In my classroom observations of fine art, the teaching approaches closely aligned with the views expressed by teachers in the interviews. Teachers encouraged students to link creative themes to personal experience through critical questioning. Rather than evaluating students' initial ideas directly, they repeatedly posed guiding questions such as "Why did you choose this theme?" and "How does it relate to your background and experiences?" These questions highlight the question at issue and push students to

clarify their purpose. They also prompt students to reflect on assumptions and to provide relevant information, rather than relying on instinct or familiar imagery (Paul & Elder, 2006). In Paul and Elder's terms, this dialogue encourages students to test their ideas against intellectual standards such as clarity, relevance, and depth, moving from a broad and vague theme towards a more specific and evidence-grounded point of view (Paul & Elder, 2014). In one observed fine art class, the teacher encouraged a student to move beyond a generalised portrayal of rural life and towards a more personal and reflective engagement. The exchange began with the student linking her theme to her upbringing:

Because I grew up in the countryside, and I feel it represents my experience.
(Observation, Fine art student)

The teacher, however, pressed further:

That's a very good starting point. But how does this painting truly reflect your own experience, rather than simply presenting a generalised image of the countryside? (Observation, Fine art teacher)

When the student explained that she had used online photos resembling her memories, the teacher challenged the reliance on secondary sources:

Do you think copying these photos conveys your memories, or someone else's?
What would happen if you went back to the village and made sketches yourself?
(Observation, Fine art teacher)

This classroom dialogue illustrates how teachers attempted to scaffold critical thinking by questioning the authenticity of students' visual references and pushing them to distinguish between personal experience and borrowed imagery. The interaction reflects the code authenticity of expression and demonstrates how pedagogical interventions can challenge students' assumptions and deepen their interpretive

process. Similarly, in a graphic design class, a student selected urban village life as the theme of his project. The teacher began by asking about his choice:

Why did you select this design theme? (Observation, Graphic design teacher)

The student explained:

Because during my time renting, I encountered a series of issues within the urban village. (Observation, Graphic design student)

When the teacher probed further about its personal significance, the student paused and reflected:

Initially, I wanted to address some rental difficulties, but during my research, the rapid transformation of urban life created a stark contrast with the ageing neighbourhoods at the city's heart. Perhaps it's not just about solving problems; it's also about urban change. (Observation, Graphic design student)

This dialogue shows how critical questioning can guide students to move from a focus on personal experience, such as rental issues, to recognising broader socio-cultural dynamics, such as urban transformation. In this exchange, the shift is triggered by a pedagogical re-framing of the issue under discussion. Critical thinking is the mechanism that enables this shift. It prompts students to surface hidden assumptions (Paul & Elder, 2014), such as the belief that rental difficulty is purely an individual problem, and it redirects attention towards wider causes and implications. For example, students are encouraged to consider how urban transformation shapes everyday life and creates new design needs, which can then be used to address practical difficulties. This means that students are guided to broaden their perspectives and to test relevance and breadth. In this way, they are encouraged to move beyond surface reactions, reflect on how their viewpoints are formed, and consider how these viewpoints shape creative decision-making.

This also echoes Dewey's (1934) view of art as an extension of experience. He argues that artistic creation is not a passive recording of reality. It is a reflective reconstruction, a dialogue between the individual and the world. Building on this, Barrett (2011) further stresses that artists' interpretations and their communicative aims, including choices of form and symbolism, are shaped by the artist and the cultural context in which they work. This encourages artworks that can respond to and represent wider social realities.

The other two graphic design tutors also recognised the role of personal experience in conceptual development. However, they pointed out that while many students might share similar life experiences, the crucial factor lay in viewing these experiences from different perspectives.

When looking at the same thing, if others have overlooked it but you pay attention to it, then you can create something new in your work. These new angles and innovations come from critical thinking. (GD1)

Many people might draw a mirror to represent something, but I would think about drawing a broken mirror, where each shard reflects a different scene. That makes it unique compared to others. (GD2)

One example was provided by teacher GD1 :

Toilet paper is usually round and pulls smoothly, but if you make it square, it creates more friction when pulled. This added resistance can encourage people to use less, making it more environmentally friendly. Also, square packaging saves space during transport, since round rolls always leave empty gaps. I think it's a way of looking at his life or understanding it from a reverse perspective. (GD1)

This perspective emphasises that the core source of artistic originality does not lie in the rarity of personal experience but in the ability to reconstruct it from a distinctive

angle. As Sawyer (2012) argues, creativity often involves redefining the problem itself. In this sense, originality emerges when familiar experiences are questioned and reinterpreted in unconventional ways. The teachers' examples, from visualising a "broken mirror" to reimagining the design of toilet paper illustrate this process of problem redefinition, whereby ordinary objects are perceived anew through alternative lenses. Some scholars stress that such redefinition is not only a precursor to innovative outcomes but also a cognitive skill within creative thinking (Treffinger et al., 2006; Mumford et al., 2012). At the same time, Paul and Elder (2006) highlight that the ability to analyse and redefine underlying assumptions is a core feature of critical thinking, while Facione (1990) associates it with evaluative judgement. Taken together, these perspectives suggest that problem redefinition represents the intersection of creativity and criticality: it enables novelty while grounding it in reflective analysis. From this viewpoint, originality is not reduced to superficial newness but emerges as the result of critically examining shared experiences, identifying hidden assumptions, and exposing neglected issues. Thus, teachers encourage students to anchor their creative work in reflective engagement with personal and social concerns, cultivating originality as a form of critical insight rather than as a pursuit of novelty for its own sake.

Creative practice and formal realisation

As previously noted, the creative process is both structured and procedural (Sawyer, 2012). When artists or students generate inspiration and conceptual ideas, these must be translated into artistic production through a process that participants did not regard as purely instinctive or emotional. Instead, they described it as involving continuous judgement and decision-making about how information should be transformed into form. As one graphic design teacher explained:

I gathered a lot of information, a huge amount that most wouldn't use, but you must reorganise and reframe it to see how it can be integrated into your work.
(GD3)

This perspective highlights that the value of information lies not in its sheer volume, but in its relevance to artistic expression and its purposeful integration into the work. The process is therefore not simple material accumulation, but a series of critical decisions shaped by purpose, relevance, and communicative aims. In Paul and Elder's terms, information functions as a key element of thought, yet it only becomes meaningful when it is selected and organised in relation to a clear purpose and the question at issue (Paul & Elder, 2006). It involves initial assessments, in which students identify potentially useful material, followed by more nuanced evaluations, in which they judge whether the material is relevant and sufficient for the intended theme (Paul & Elder, 2014). Students then make final decisions about selection and integration, organising information logically so that visual choices are supported by reasons rather than by random accumulation. In this way, artistic execution becomes a structured reasoning process guided by intellectual standards such as relevance, clarity, and logical consistency.

A fine art teacher observed that during the information-gathering stage of artistic creation, critical thinking was reflected not only in the selection of materials, but also in the interpretation and evaluation of other artists' works, specifically their underlying logic, compositional strategies, and expressive intentions. As one oil painting teacher explained:

When collecting data, students often look at high-quality works to gain more inspiration, but this inspiration needs to be processed and thoughtfully applied to their own creations. (FA2)

This account overlaps with the views of graphic design tutors discussed earlier, in that both groups treat information gathering as a critical stage rather than simple accumulation. However, the two disciplines position the purpose of "data" differently. Graphic design teachers tend to prioritise relevance and usefulness, guiding students to select information that supports a clear brief, a target audience, and a communicative goal. In Paul and Elder's terms, the key task is to test information against the purpose and question at issue, and to judge it through standards such as relevance and clarity

(Paul & Elder, 2006, 2014). Fine art teachers, by contrast, extend this evaluative filtering into a more interpretive engagement with artworks as meaning-making systems. Here, students are not only deciding whether a reference is relevant, but also examining how it works, why it works, and what kind of vision it produces. This shift places more weight on depth, purpose, and point of view. It also requires students to infer intentions and implications embedded in form and composition.

Moreover, the fine art teacher's description points to the role of critical thinking. Students must judge what can be adapted without becoming imitation. This requires reflective questioning such as "Does this align with my intended theme and purpose?" and "What assumptions am I bringing into this interpretation?" Such processing resonates with transformative learning theory. Mezirow (1997) argues that cognitive change does not come from exposure to new information alone, but from critical reflection that revises prior frames of reference. In fine art, critical thinking therefore functions as a bridge between seeing and creating. It enables students to convert external references into personalised expression through interpretation and reconstruction, rather than through stylistic copying. Graphic design teachers, however, place greater emphasis on the choice of form of expression:

You must tell me why you chose this content? Are there any references for the creative form? There are no restrictions on paper size or format; it's entirely up to you. (GD1)

This statement defines the creative process as one where form aligns with intention. Students need to explain their choices regarding media, composition, and visual style based on the message they want to convey, rather than relying on familiar techniques. Classroom observations also reflected this pedagogical emphasis. In a graphic design project on *urban village life*, one student produced a brochure saturated with fluorescent colours. When asked about his decision, he explained:

They appear more striking. My concept revolves around the contrast between urban and rural neon lights. (Observation, Graphic design student)

The teacher challenged him to justify the link between aesthetic choices and conceptual intention:

You cannot incorporate everything. You must convince me that your choice of shape or colour relates to your concept, not merely because it looks appealing.
(Observation, Graphic design teacher)

Although the student reiterated that neon colours were “appealing” and symbolised the contrast between urban and village life, the teacher emphasised the need for clarity:

Your concept is strong, but the brochure needs clarity. Viewers might not grasp your urban village contrast idea. Review your field notes and interviews. Which elements truly represent the essence of the urban village you studied?

Through iterative discussion, the tutor encouraged the student to move beyond decorative choices and re-examine his research materials. This exchange demonstrates how design educators can guide students to filter complex information, evaluate the relevance of visual elements, and restructure content into clearer, conceptually grounded design messages.

Across both theme selection and post-theme development, teachers’ accounts suggest a consistent disciplinary pattern in how critical thinking is mobilised in graphic design and fine art. At the theme selection stage, graphic design tutors tended to frame experience as a resource for identifying a problem and shaping a communicative intention. Students were encouraged to move beyond personal preference and consider social relevance, the needs of an audience, and the practical implications of design choices. Read through Paul and Elder’s elements of thought, this approach foregrounds purpose, question at issue, and implications, because students must justify what problem the work addresses and what effect it is expected to produce (Paul & Elder, 2006). It also relies heavily on information and inference, as students gather evidence and decide which materials support a coherent message. By contrast, fine art tutors

placed greater emphasis on the subjective and affective dimensions of experience. They encouraged students to transform memories, cultural references, and personal reflection into expressive visual language, positioning theme development as a process of constructing a distinctive point of view. Within Paul and Elder's framework, this places greater weight on examining assumptions and strengthening interpretation, since students are asked not only what they depict, but how meaning is shaped through form, symbolism, and personal stance (Paul & Elder, 2006, 2014).

This disciplinary contrast becomes even clearer after a theme has been chosen. Teachers observed that graphic design students typically gathered a wide range of information and visual materials and then evaluated their suitability in relation to the brief. Here, critical thinking is enacted through selecting, organising, and refining elements to optimise communication. The dominant standards are therefore relevance, clarity, and logic, as students test whether each component strengthens the intended message and supports the brief's constraints (Paul & Elder, 2014). Fine art students, however, were guided towards studying artistic styles not merely as references but as systems of meaning. Teachers encouraged them to interpret the cultural logics, compositional strategies, and expressive intentions embedded in high-quality works. This requires more sustained judgement through standards such as depth, breadth, and significance, because students must ask what a stylistic choice implies and how it positions the artwork in relation to wider cultural and artistic contexts (Paul & Elder, 2014). In this sense, fine art students are expected not only to judge relevance but also to reconstruct style as a conceptual resource that can be reworked into a coherent personal language.

These differences are not simply a matter of individual teaching preference. They are shaped by disciplinary conventions, curricular structures, and assessment expectations. Fine art programmes often allow open-ended exploration and reward interpretive richness and originality. They are also influenced by Chinese artistic traditions. For example, Chinese landscape painting often uses symbolic shorthand to convey ideals of reclusion and retreat from worldly life (Hearn, 2008). This makes critical thinking more closely associated with the formation of a point of view and the deepening of

meaning. By contrast, graphic design education is typically organised around briefs, audiences, and communicative outcomes. As a result, critical thinking is more tightly linked to decision-making under constraints, justifying choices, and optimising effectiveness (Bestley & Noble, 2016). In this sense, critical thinking in graphic design functions more like a decision system that is accountable for communicative impact, whereas in fine art it functions more like an interpretive system that is accountable for meaning and artistic stance.

5.1.2 Graphic design vs fine art students' perspectives on critical thinking in art creation

Creative Ideation and Concept Formation Stage

Most students agreed with their teachers' views. For instance, a fine art student, believed that "artistic creation is a response to real life." She further explained,

I tend to focus on social issues, especially topics related to children, animals, and the elderly, for this concerns love and responsibility. (FA-S6)

She gave the following example:

I happened to be watching a documentary was it Renzhen Shi or Renshi Jian, I can't quite remember. There was one episode specifically about Alzheimer's disease, and it immediately reminded me of my grandmother. (FA-S6)

This narrative shows how lived experience can become a conceptual starting point for artistic creation, while also revealing how critical thinking operates during the topic selection stage. FA-S6's response was not a simple emotional reaction. Instead, it was a reflective process, moving from being affected to identifying a meaningful issue worth exploring. From the perspective of Paul and Elder's framework (2006), she

began to clarify her purpose for making art, shifting from private feeling to an intention to examine a wider social reality. The documentary also helped her clarify the question at issue, namely how Alzheimer's disease influences family relationships and personal memory, and what it means to live with illness.

Critical thinking is therefore evident in how she selected and organised experience as information, rather than treating it as raw emotion. The documentary provided an external point of reference, while her grandmother's experience offered situated knowledge and personal evidence. By bringing these elements together, she moved beyond a single point of view and began to test her initial response against broader meanings. This process required her to surface implicit assumptions, such as assumptions about ageing, care, and the invisibility of illness in everyday life. It also involved anticipating implications, including how vulnerability can be represented ethically, and how an artwork might communicate not only loss, but also care, dignity, and responsibility. In this way, the "topic" was chosen not simply because it was personally moving, but because it carried significance, relevance, and conceptual potential. This aligns with Eisner's (2002) view that artistic learning depends not only on sensory experience, but also on deliberate processing and judgement of what is perceived. It also echoes Barrett's (2012) argument that meaning making in art requires interpretation and evaluation, including awareness of one's own standpoint and of the cultural assumptions that shape perception. For FA-S6, then, the memory of her grandmother is not merely a channel for emotional expression. It becomes a site for critical interpretation, where personal experience is reconstructed into a socially grounded theme with reflective intention.

Another student held a different view however, they mentioned that some of their creative concepts and inspirations did not come about through a thought-out process, but may be the venting of bad moods, or perhaps just random creations on the spur of the moment, and that intuition had become a part of their creations:

Teacher prefers us not to create around love affairs and wants us to explore more in-depth content, but for example, when I fell out of love, I

was very sad, so I painted unconsciously, even after I woke up, I didn't know what I was painting! (GD-S3)

However, he did not deny that the current environment, experiences, feelings and even learned artistic skills, as unconscious things, could have a subtle influence on this unconscious state. This feeling of spontaneous creation made him feel that it was a kind of emotional release and did not require critical thinking in the same way to make rational decisions. Although this student described the creative process as impulsive and spontaneous, this did not necessarily indicate a lack of thought or depth. On the contrary, as discussed in the literature review, intuition and critical thinking are not mutually exclusive but represent complementary modes of cognition (Kahneman, 2011). Moreover, intuition itself can be the product of accumulated knowledge and repeated practice, functioning as an internalised form of decision-making (Hogarth, 2010; Cross, 2011). In artistic creation, intuition frequently operates through the subconscious application of prior knowledge, perceptual patterns, and technical choices. More importantly, even when not overtly visible, critical thinking plays a fundamental role in these judgement processes: building evaluative experience prior to creation, fine-tuning expressive strategies during the act of creation, and engaging in reflection and interpretation afterwards. As the fine art student explained,

My creative process is probably more in the style of stream of consciousness, I just draw whatever comes to mind. But I think that's because I've done a lot of small sketches. (FA-S3)

I followed up by asking,

Do you mean that the source of these ideas comes from what you have accumulated previously?

The student replied,

Yes, I feel it happens unconsciously. If I were to paint again now, I wouldn't need to think about how to mix blue and green because it has already become automatic through memory. (FA-S3)

Therefore, even in works that appear instinctive or spontaneous, the structural support of critical thinking remains evident. It helps students establish a meaningful connection between emotional expression and conceptual development, resulting in creative outputs that are more purposeful and logically coherent. Furthermore, Paul and Elder (2014) argue that the role of educators is not to suppress emotional or intuitive creativity, but to help students identify and analyse the underlying structures, effects, and meanings expressed through their work.

For example, in one fine art class observation, a student produced a work that she described as a direct release of frustration and repressed emotion. However, rather than simply affirming emotional catharsis, the teacher intervened through critical questioning during the critique session, asking, "What is the reason for choosing this particular visual form?" and "Have you reflected on what triggers these negative emotions?" These questions show how critical thinking can regulate emotion and intuition in artmaking, not by suppressing feeling, but by transforming it into a more reflective and conceptually grounded process.

The teacher's prompts guided the student to clarify the purpose of the work and to identify the question at issue behind the emotional expression (Paul & Elder, 2006). Asking "Why this form?" required the student to justify the relationship between concept and visual choices, moving beyond instinctive selection towards decision-making guided by relevance and clarity. Asking about emotional triggers, in turn, helped the student surface implicit assumptions, shift from immediate reaction to reflective interpretation, and produce more specific information about what the emotion was connected to. As the discussion developed, the student recognised that her frustration was not an isolated personal mood, but linked to concrete experiences, such as betrayal in friendship or unfair treatment. This movement from feeling to explanation illustrates how critical thinking extracts problem-awareness from emotion.

It supports the transition from “I feel” to “I understand why I feel this way,” and therefore from expression to meaning making.

Crucially, the questioning also broadened the student’s point of view and made implications more visible. With the teacher’s support, she began to connect personal experience to wider themes, including gender identity and social structures. The critique process encouraged her to test her initial idea against standards of depth and breadth (Paul & Elder, 2014). As a result, the artwork shifted from a private emotional outpouring to a more socially situated statement with greater conceptual significance. In this sense, critical thinking does not replace intuition. It reworks intuition into a form of reflective judgement, where emotion becomes a starting point rather than the end point of artistic creation.

It is therefore noteworthy that teachers did not dismiss emotional expression. Instead, they placed emphasis on students’ capacity to process and extend emotion through reasoning and reflection. Pedagogically, this cautious stance reflects a concern that treating emotion as “inspiration” may lead to immediate but superficial expression, where form is chosen without justification and meaning remains underdeveloped. By encouraging critical reflection after the initial emotional response, teachers helped students to reconstruct experience into a more communicable and interpretable artwork. This also aligns with Eisner’s (2002) view that arts learning involves a cyclical process of expression, evaluation, and reconstruction, where making is continuously revised through reflective judgement.

Another fine art student also emphasised the connection between inner emotions and broader social issues. She explained:

What I want to express is the darker side of mine. For example, these are some negative words I wrote, along with symbols showing how money overwhelms love. I want to show the good and evil in human nature under the influence of money. (FA-S5)

The student further elaborated that her inspiration stemmed from her own psychological anxiety and everyday experiences:

I feel it comes from myself, because I have this kind of psychological anxiety. When people talk to me, I tend to focus more on the negative side of things... it has a strong influence on me. (FA-S5)

FA-S5's account shows how critical thinking can mediate between inner emotion and social meaning. Her theme selection reflects a shift from raw feeling towards a clearer purpose, namely, to examine moral ambiguity and the influence of money on relationships (Paul & Elder, 2006). Her statement also suggests a more defined question at issue, focusing on how desire, love, and ethical judgement are reshaped under economic pressure. In this way, her thinking moves from "I feel darkness" to "What does this darkness reveal about human nature and society?"

Critical thinking is also evident in how she transforms experience into information and symbolic evidence. Her use of negative vocabulary, money symbols, and distorted emotional imagery is not a random accumulation of elements, but selected material that supports her intended meaning. This involves an evaluative process of judging what is relevant and what carries conceptual significance. At the same time, her explanation shows awareness of her own assumptions and point of view. She recognises that her attention is drawn towards negative emotions, which indicates a self-critical acknowledgement that perception can be filtered by psychological disposition. By making this filtering process explicit, she creates distance from it, turning emotional sensitivity into an object of reflection rather than an unquestioned truth. Moreover, her theme choice carries clear implications. By framing money as something that "overwhelms love," she signals a critique of value order and social relations, rather than simply expressing sadness or anxiety. This expands the work from self-expression towards interpretation and judgement, which aligns with intellectual standards such as depth and significance (Paul & Elder, 2014). In this sense, critical thinking enables her to connect the internal and the social. Anxiety becomes not only a private burden, but also a tool for diagnosing a broader cultural condition.

However, it is important to note that many graphic design students did not engage in conceptual development as deeply as fine art students. This pattern does not necessarily indicate a lack of critical thinking. Rather, it reflects how disciplinary settings organise and direct critical thinking. In graphic design, creative work is typically structured around assignment briefs, with teachers introducing predetermined topics such as “workplace stress” or “consumer anxiety.” As a result, the question at issue and the intended purpose of the work are often defined externally from the outset. Students’ critical thinking is therefore guided towards how to translate a topic into persuasive visual communication. Design students are encouraged to prioritise purpose, implications, and audience relevance, since their success depends on whether the outcome can effectively prompt viewers to reflect and respond (Paul & Elder, 2006, 2014).

Nevertheless, at the early stage of theme development, a certain degree of convergence can still be observed between the two disciplines. When constructing themes, both fine art and graphic design students commonly draw on lived experience. For example, one graphic design student explained: “I realised that many young people, including myself, are not in good health... I wanted to encourage young people to develop healthier habits” (GD-S1). Similarly, fine art students often begin with personal emotions or family memories, using social issues as cues for deeper reflection. However, the key difference lies in the direction of their critical thinking, rather than whether experience serves as the starting point.

Fine art students tend to adopt a more inward form of critical thinking, using self-examination as the primary route to conceptual depth. Their narratives suggest that before transforming experience into artistic form, they repeatedly engage with assumptions, points of view, and interpretation, and they often deconstruct emotional triggers, issues of identity, and personal meaning (Paul & Elder, 2006). This aligns with Brookfield’s (2011) notion of “inward criticality,” which suggests that critical thinking involves questioning one’s own beliefs, emotional responses, and habitual interpretations. By contrast, graphic design students are more often guided towards an

outward-facing mode of criticality. Even when themes originate from personal experience, students are encouraged to translate them into visual arguments about broader social issues, directing attention towards external structures, public values, and social consequences.

Creative practice and formal realisation

In contrast to the teachers' emphasis on concept generation, many students focused more on the role of critical thinking during the practical execution of their work. One student interviewee provided a concrete example by showcasing her artwork and explaining how critical thinking informed the construction and transformation of metaphor. As mentioned in the previous section, this student developed her project around the theme of Alzheimer's disease:

At first, I wanted to do a collage-style poster, mainly using brain slices showing the pathology of Alzheimer's disease. But then I suddenly... I was out one day and passed by a vintage shop, and there were a few of those old TVs in the shop. Then I thought, I thought I could try to assemble something out of that and add those glitch-like coloured stripes, like a broken old TV. (FA-S6)

Initially, the student chose to centre her composition around medical imagery of brain slices associated with Alzheimer's pathology. While these images were highly relevant to the theme, the approach remained rather literal and superficial, failing to capture the psychological experience and emotional impact of the condition. She later abandoned this direction in favour of a more metaphorical mode of expression. This shift exemplifies reflective judgement, a key dimension of critical thinking (Halpern, 2014). Rather than settling for a surface-level correspondence between theme and imagery, she critically questioned how to represent the abstract concept of cognitive impairment in a way that was both symbolically rich and emotionally resonant.



Figure 5.2 Student FA-S6 presenting for collage

During this process, the student redefined her creative objective from presenting medical facts to evoking emotional and cognitive engagement. She evaluated whether her original imagery had sufficient expressive power, whether it might create a sense of emotional distance for the viewer, and whether it offered adequate visual impact. These considerations reflect purposeful, analytical thinking as described by Paul and Elder (2006), where visual decisions are assessed and adjusted based on factors such as expressive depth, symbolic effectiveness, and anticipated viewer response. Importantly, she did not simply replace one image with another. Instead, drawing from personal life experience, she extracted a metaphorical visual element from the intuitive image of a “glitching television.” (see figure 5.2). The image of a faulty signal not only symbolised the fragmentation of memory and distorted perception, but also tapped into a shared visual culture familiar to viewers. This ability to derive abstract meaning from concrete experience demonstrates interpretive transformation, a central feature of critical thinking. As Lakoff and Johnson (2003) notes, metaphor is not merely a rhetorical device, but a cognitive mechanism that connects abstract ideas to concrete

imagery essentially, a form of making the abstract visible. Sullivan (2010) further argues that the effectiveness of metaphor in visual art relies on the artist's capacity to critically reconstruct visual language. In this case, the student established a meaningful link between source material and intended expression one that carried both symbolic resonance and emotional impact. As a result, she avoided simply reproducing informational content and instead crafted a visually compelling and conceptually thoughtful response to her chosen theme.

The student went on to explain that critical thinking also influenced her choice of artistic techniques:

I want to combine gongbi (Traditional Chinese painting style) heavy colour with graphic design collage (see figure 5.3). Gongbi heavy colour focuses on detailed depiction of the main subject, with large areas of solid colour in the background. Also, you'll see that I've made every object particularly large to emphasise the theme, while leaving some blank space around it. And collage is fragmented. (FA-S6)

Her selection of visual forms was not simply based on aesthetic preference; rather, it reflected a conscious critical strategy. In the creative process, she actively deconstructed and recombined different visual languages, demonstrating an awareness of how formal choices affect meaning. Her use of blank space represented the fading of memory and spatial dislocation, which, combined with the previously mentioned "glitch stripes" of the broken television, constructed a visual sense of disorientation between perception and reality. The fragmented quality of collage further reinforced this cognitive disruption. As Elkins (2013) argues that art becomes crucial when it forces us to reconsider how we see, connect, or remember." This student did precisely that she did not blindly follow her initial idea (such as using collage alone), but instead drew upon her personal technique preferences (gongbi heavy colour and collage) and subjected her choices to critical analysis. She noted, for instance, that *gongbi* would help to emphasise the main subject, a decision grounded in logical reasoning about how viewers perceive visual hierarchy and follow compositional focal points.



Figure 5.3 Students showing finished work with brushwork recolouring and collage

In addition, as discussed in Chapter 4.1, the student FA-S3 defined critical thinking as the process of refinement and improvement that highlighting its open-ended, iterative, and non-final nature. This understanding reflects an awareness of critical thinking as a dynamic cognitive activity rather than a fixed skill. Many students believe that critical thinking enhances the quality of how they express their work. I have summarised this as follows:

Concept → Critical Thinking → Enhanced Expression

Similarly, another fine art student noted,

A painting can't be finished in one go, there are many problems. I revise and reflect again and again to enhance its expressive effect. (FA-S5)

According to this student's account, critical thinking manifested in practice as an ongoing cycle of revision and adjustment aimed at strengthening communication through visual form. This process-oriented view was also clearly articulated by a graphic design student who described artmaking as

a process of identifying and solving problems. (GD-S2)

Through constant exploration and reflection, the creative process progresses in a spiral, eventually leading to a better outcome. (GD-S2)

Importantly, as GD-S2 clarified, a "better outcome" did not mean perfection, but rather a result shaped through rational decision-making and deliberate refinement. Similarly, a fine art student stated,

The first draft and the final version are very different... during the revision process, I keep adding new ideas and elements. (FA-S5)

These reflections reveal how students perceive critical thinking as an ongoing practice throughout the creative development process, rather than a one-off evaluative act. Their accounts demonstrate that critical thinking in artistic practice extends beyond final judgements, encompassing a continuous cycle of problem-solving: identifying challenges, proposing solutions, and assessing outcomes through visual reasoning. For instance, student FA-S5 noted that iterative revisions yielded optimal outcomes, revealing that the process commences with identifying deficiencies in visual expression, such as compositional imbalance, ambiguous symbolism, or insufficient emotional impact. Confronted with such issues, students did not rely solely on intuition. Instead, they engaged in a deliberate cycle of exploration: analysing ineffective elements, proposing alternatives (such as adjusting composition, altering colour contrast, or reconfiguring spatial relationships), and progressively implementing refinements. This process aligns with Belecina and Ocampo's (2018) theory of 'spiral progression,' wherein solutions emerge not through direct answers but through continuous refinement. Crucially, as graphic design student GD-S2 elucidated, the evaluation process focuses not on correctness but on the work's efficacy in conveying its intended message. In this sense, creation involves unstructured problems, and 'better outcomes' do not denote flawlessness but rather a state achieved through rational decision-making and deliberate refinement. This necessitates students establishing internal criteria, such as informational clarity, visual harmony, cultural appropriateness, and emotional tone and evaluating work against these dynamic standards.

Student FA-S5 remark that "the first draft and the final version are completely different" further illustrates how critical thinking can cultivate openness to change. Each revision represents a reassessment of the work's communicative power, and the decision to "add new ideas and elements" is an evaluative act signifying an ongoing examination of the work's meaning, interpretation, and potential for greater impact. This autonomous revision process echoes what Facione (1990) refers to as self-correction, the ability to step back, identify flaws or contradictions in one's reasoning, and reconstruct decisions accordingly. Through visual experimentation, integration of feedback, and purposeful cycles of revision, these students demonstrated how critical

thinking operates as a dynamic mode of inquiry. Within this mode, problems were not fixed obstacles but evolving challenges that invited interpretive, aesthetic, and strategic reflection throughout the creative process.

The students demonstrated how they felt critical thinking evolves from conceptual understanding into creative execution. However, at the practical level, the ways in which critical thinking manifests differ significantly between disciplines. Graphic design students tended to engage in extensive research involving texts, charts, and visual materials, critically filtering, evaluating, and integrating information. This process reflected their emphasis on problem-solving aspects of critical thinking. In contrast, fine art students focused more on the exploration of visual language and symbolic forms, often engaging in stylistic appropriation and recombination to enhance expressive intent. Their use of critical thinking was more concerned with interpretive and symbolic operations through repeated construction and deconstruction of form and meaning, they deepen the conceptual clarity of their work. Here, criticality was manifested in their sustained reflection on how to express and whether their expression was accurate.

5.2 Critical thinking in art criticism

The previous section explored how both teachers and students conceptualized the multifaceted role of critical thinking in artistic creation. Beginning with the initial stages of idea generation, which involves a keen sensitivity to personal experiences and social issues, and extending to the operational phases involving source evaluation, strategic decision-making, and the construction of visual metaphors, critical thinking emerges as an essential cognitive tool throughout the artistic process. It not only helps creators clarify their expressive intentions but also drives the deepening and restructuring of their work through continuous self-questioning and evaluative reflection.

However, critical thinking was not considered to be confined to the process of artistic production; it also was felt to play a central role in art criticism and viewing practices.

Whether in students' classroom-based, multi-perspective analyses of artworks or in teachers' formulation and guidance of evaluative criteria, critical thinking was perceived to enable learners to move beyond subjective preferences and engage deeply with the formal qualities, contextual dimensions, and interpretative possibilities of art. The following section will examine how both students and teachers applied critical thinking in the context of art criticism, particularly in identifying meaning, comparing viewpoints, and reconstructing aesthetic judgment, as well as how these processes contributed to the development of individual expressive styles.

5.2.1 Students' perceptions of critical thinking in art criticism

As discussed in Section 2.2.3, formalist and interpretive approaches are closely connected to the development of critical thinking, and students' responses also reflected these dimensions. One fine art student remarked:

Like Picasso, in his early years he was very realistic, but later he developed Cubism... he had his own unique way of understanding structure. (FA-S2)

This student first pointed out Picasso's stylistic shift from realism to Cubism, which suggests an initial awareness of formalist development. More importantly, however, he noted Picasso's "unique way of understanding structure," indicating that his analysis moved beyond surface-level stylistic comparison towards recognising how formal elements such as composition and spatial reconstruction embody distinctive conceptual logics. Here, the student demonstrated that stylistic change is not merely an aesthetic variation but a reconstruction of conceptual structure. From Paul and Elder's (2014) framework, this response reflects the use of several key elements of thought: the student drew on information, the observed stylistic change, and applied concepts to infer Picasso's artistic intentions. Viewed through a formalist lens (Barrett, 2012), such reflection shows that the student was beginning to recognise how form, space, and proportion function as central carriers of meaning. This indicates the emergence of critical thinking within the artistic context, as the student demonstrated

a focus on observation and causal reasoning, skills aligned with the intellectual activities Paul and Elder describe as essential to sound judgement.

In addition to an emphasis on formalist analysis, many students also demonstrated a strong concern with interpretive meaning in the context of art criticism. For example, a graphic design student described her experience studying Honoré Daumier's *The Third-Class Carriage* in an art criticism course. The painting's critical depiction of class structure and social reality left a deep impression on her. As she explained,

At that moment, I suddenly realised that art isn't just about expressing beauty. It can also convey reflections on reality. (GD-S2)

When GD-S2 realised that *The Third-Class Carriage* was “not just about beauty,” she moved beyond a narrow aesthetic assumption and began to reposition art as a form of social reflection. Unlike FA-S2, whose interpretation focused on stylistic change and structural understanding, GD-S2's reading was oriented towards meaning and context. This shift reflects what Paul and Elder (2014) describe as interpretive judgement, in which critical thinking involves questioning taken-for-granted assumptions, considering different points of view, and examining wider implications. In Paul and Elder's terms, GD-S2 moved from information (the weary figures, the overcrowded carriage, the clothing and facial expressions) to inference (these visual details suggest inequality and hardship), while also making explicit the assumption she was challenging (that the main purpose of art is to convey beauty). Her interpretation therefore reframed both the purpose of the artwork and the question at issue. Rather than asking, “Is it visually pleasing?”, she began to ask, “What reality does the work represent, and why does it matter?” This also demonstrates her sharp sensitivity to underlying meaning.

As a graphic design student, she has been trained to think about communication, audience positioning, and social messaging, which makes meaning and intention more salient within critique. More broadly, students are often encouraged to connect art with lived reality and social concerns, which legitimises reading artworks for what

they signify rather than only how they look. In this sense, GD-S2's attention to social reflection is not simply a personal insight, but also a culturally and educationally supported way of understanding artistic meaning. In this way, GD-S2 demonstrated not only careful observation but also contextual and causal reasoning. Her approach also aligns with Elkins' (2003) argument that art education should cultivate students' capacity to explore why we view art in particular ways, rather than merely training them to apply a single fixed method.

Another student emphasized how interpreting the underlying meaning of artworks can help illuminate an artist's stylistic transformation. Referring to the case of Qi Baishi, she reflected on both his work and creative ethos, stating,

Before his transformation, Qi Baishi's style was just refined ink painting. Later, after Chen Shizeng pointed out some problems in his composition, he spent ten years behind closed doors, doing nothing but reflecting and creating. (FA-S3).

Compared with students FA-S2 and GD-S2, this student did not focus only on changes in artistic form or on social context. Instead, she extended her perspective further to examine the artist's creative actions and intellectual trajectory. She noted that Chen Shizeng criticised Qi Baishi's early works as technically skilful, but overly decorative and lacking expressive force. In response to this critique, Qi did not avoid it. Rather, he withdrew from public life for almost ten years to undertake sustained reflection and artistic reconstruction. This response carries important cultural significance, because early training in Chinese ink painting often places strong value on technical discipline and stylistic refinement, and skill can easily become the main standard for judging artistic quality. Chen Shizeng's intervention therefore functioned as a major rupture. It challenged the assumption that technical refinement automatically produces artistic meaning and prompted Qi Baishi to reconsider what his paintings were trying to communicate. From this perspective, Qi's transformation can be understood as a process of using critical thinking to challenge an established framework. To support her argument, the student compared two of Qi Baishi's works (see Figures 5.4 and 5.5). *Meticulous Insects* reflects his early concern with precise representation,

whereas *Basket of Apples* shows freer and more expressive brushwork and bolder use of colour, creating a more relaxed atmosphere. The student's attention to the shift in Qi Baishi's creative purpose suggests that she understood artistic development as a process of rebuilding practice through more deliberate judgement rather than habitual repetition (Paul & Elder, 2006). Moreover, her emphasis on "ten years of reflection" indicates that her understanding of critical thinking in art is not limited to analysing finished works. Instead, she treats it as a sustained form of self-critique and self-revision, in which artistic change emerges through disciplined examination of one's own limitations.



Figure 5.4 Grasshopper by Qi Baishi. Early meticulous depiction of insect anatomy.[Painting]. Beijing Fine Art Academy. Retrieved from <https://english.bjaa.com.cn/opus.html?hcs=1&clg=89>. Public domain.



Figure 5.5 Basket of Apples by Qi Baishi. Late freehand style with expressive brushwork. [Painting]. Beijing Fine Art Academy. Retrieved from <https://english.bjaa.com.cn/opus.html?hcs=1&clg=89>. Public domain.

In addition, one student specifically pointed out that it was her critical engagement in an art criticism class that prompted her to actively apply what she had learned to her own creative practice. She recalled:

In one session, the teacher showed us works by the artist Christina Quarles's *O Holy Nite* (2021) is accessible via the artist's official website: <https://www.christinaquarles.com>. I noticed that Quarles often used light pastel tones and interwoven, distorted bodily forms. I began to wonder whether I could express myself in a similar way. (FA-S4)

This account shows how critical thinking helped the student move from a surface recognition of visual features towards a more conceptual and culturally informed interpretation, and then return to her own making with a revised artistic intention. At first, her attention was directed towards information, namely observable formal elements such as colour and bodily distortion. However, she did not treat these as neutral stylistic preferences. Instead, through critical thinking, she began to infer that these choices carried meaning, and she clarified the question at issue (Paul & Elder, 2006), namely what these compositional strategies communicate about the body, identity, and lived experience. This interpretive shift also required her to identify implicit assumptions embedded in the work, for example, what kinds of bodies are regarded as normal, legible, or acceptable within visual culture. Importantly, she did not stop at observing what the work “looks like,” but began to reconstruct its purpose and implications: what the artwork is trying to communicate, and what it invites viewers to recognise or reconsider. As a result, her own creative practice also shifted. She started to treat stylistic strategy as an intentional choice connected to theme and standpoint, rather than as an aesthetic effect detached from meaning.

Her attempt to express herself in a similar way also points to the social conditions under which cultural critique becomes necessary. In social contexts, topics such as gender and bodily identity can be highly sensitive, meaning that direct statements may feel risky or difficult to articulate. In this sense, symbolic and formal transformation provides a legitimate artistic language through which students can approach sensitive issues indirectly, while still engaging critically with cultural norms. Through critical interpretation, FA-S4 came to realise that artistic creation is not only about producing aesthetic outcomes but can also function as a reflective intervention into social expectations and cultural narratives. Building on this insight, she attempted to integrate related expressive strategies with her own lived experience in her creative work (Figure 5.6), describing her piece as:

I wanted to present anatomical images of a womb, blurred limbs, and broken brushstrokes combined with scratched backgrounds. These visual elements

were intended as a metaphorical response to the female body, particularly addressing online gaze and power dynamics. (FA-S4)

FA-S4's description illustrates how critical thinking helped her translate what she learned in art criticism into her own creative language. Rather than simply imitating Quarles' style, she reconstructed the underlying expressive logic into a new visual argument. By using the female body as an image, she treated it not only as a subject to depict, but also as an entry point for investigating online gaze and power relations, thereby clarifying her creative purpose and question at issue (Paul & Elder, 2006). She then selected and organised information through symbolic forms such as the womb, blurred limbs, broken brushstrokes, and scratched textures. These elements functioned as visual evidence rather than decorative effects. This process also involved recognising cultural assumptions about how female bodies are viewed and controlled, and reflecting on the implications of representation, including how an artwork can resist objectification while still communicating vulnerability. She was able to learn these strategies through art criticism because critique makes artistic decisions visible, presenting them as deliberate choices that carry meaning and consequences (Ennis, 1987). By analysing how artworks construct meaning through form, students gain a framework for reasoning about their own visual decisions.



Figure 5.6 Fine art student FA-S4-W1

Another student from the graphic design programme expressed a similar perspective. He presented one of his own works and compared it with an artwork he admired:

Yangliuqing's creations are all culturally related. For example, the piece I just showed you is combined with an opera. It is a form of folk culture. You can really sense the cultural atmosphere in the red and green colour combination.
(GD-S3)

GD-S3 did not treat the work merely as a visual composition, but as a culturally coded text. His references to Chinese opera and folk customs suggest that he was not only identifying motifs, but also inferring how these symbols position the work within a shared tradition and shape audience recognition. In this sense, his movement from information (colour and imagery) to interpretation demonstrates critical thinking, as visual choices are no longer treated as neutral decoration but as carriers of cultural meaning. Importantly, his reading of the red–green palette shows that he understood colour as a communicative tool embedded in specific cultural conventions. Rather than viewing colour as a matter of personal preference, he interpreted it as part of a festive visual language that signals collective memory and cultural atmosphere. This suggests that, for GD-S3, critical engagement in design involves recognising how form carries culturally learned meanings and using this awareness to make more purposeful decisions about what an image communicates and to whom.

He also showcased his own packaging design project for a luosifen (snail rice noodle) poster (Figure 5.7), which incorporated many cultural elements and vibrant colours. His insight into cultural context subtly influenced his creative choices. Instead of merely imitating traditional styles, he reworked and translated them based on an understanding of their cultural significance. This demonstrates that the student's engagement went beyond surface appreciation of artworks, revealing an ability to analyse form, content and cultural context in an integrated way. It illustrates the practical role of critical thinking in both artistic understanding and creative practice.

Moreover, one fine art student noted that critical thinking helped him to overcome his prejudice against abstract art:

I used to think abstract paintings were chaotic, but now I am gradually beginning to understand this mode of expression. (FA-S1)

FA-S1's reflection reveals not only a shift in taste, but also an improvement in the quality of his judgement. His earlier rejection of abstract art was grounded in an implicit assumption that good art should be visually coherent and easy to understand. Through participation in art criticism classes, he began to question this assumption and realised that abstract art can operate through symbolic logic, conceptual intention, and affective structure rather than representational clarity (Paul & Elder, 2014). In this process, critical thinking functioned as a mechanism for monitoring and revising his own point of view, enabling him to replace a fixed evaluative stance with a more open and flexible way of thinking. This development aligns with wider research suggesting that critical thinking often involves recognising the limits of one's habitual thinking patterns and expanding interpretive possibilities (Nisbett, 2001; Paul & Elder, 2014).

Across the dataset, students' narratives suggest a trajectory of increasing critical engagement in art criticism. Many began with a formalist focus on composition, colour, and visual language. With guidance and repeated comparison, their readings became more context-sensitive, incorporating socio-cultural background and recognising that artworks often embody values, standpoints, and themes. This development indicates that students increasingly evaluated artworks through elements such as assumptions, purpose, and implications, supported by standards such as depth, relevance, and breadth (Paul & Elder, 2014). Crucially, some students also described transferring this interpretive process into their own creative practice, treating critique as a resource for making more intentional decisions about meaning, form, and audience response.

When comparing fine art and graphic design students, similarities were often as visible as differences. Both groups reported moving from formal observation towards interpretive meaning-making, and both viewed critical thinking as a bridge between analysing artworks and developing their own creative decisions. However, their

emphases diverged in ways shaped by disciplinary aims. Fine art students more frequently positioned critique as a means of integrating personal experience, emotional intensity, and broader social concerns, using critical reflection to deepen self-expression and refine artistic stance. By contrast, graphic design students more often framed critique as learning to recognise and employ culturally coded visual language, where colours, symbols, and references function as communicative resources that shape audience understanding. In this sense, fine art students tended to use critical thinking to strengthen the relationship between inner experience and social meaning, whereas graphic design students used critical thinking to strengthen the relationship between cultural sign systems and public communication. These patterns suggest that critical thinking develops through shared classroom practices, yet it becomes differentiated by the distinct meaning-making demands of each discipline.

5.2.2 Teacher' perceptions of critical thinking in art criticism

Unlike students, teachers tended to frame critical thinking primarily in relation to the interpretive depth of the artwork itself, rather than its transfer into students' own creative practice.

Art criticism is mainly the transmission of the main idea, to understand that the artists use the subject matter to present you with an emotion, it is their perception and mode of thinking that determines their beliefs. (FA2)

I don't think it has much impact on the style of the work. It's more about how students understand and which themes they choose to focus on. If we're talking about style, that comes from experimentation and exploration. (GD3)

GD3 further mentioned:

For example, a piece like Rat Tail Painting for the Great Man some time ago. A lot of people say that his work is anti-war critical, and when you look at it now, it's no longer possible to say whether it's critical or whether it's an intentional distortion of the facts. But we see that many of his works are impressive, what they are metaphorical, what they are revealing. (GD3)

For the interviewed teachers, critical thinking was closely associated with guiding students to explore how meaning is constructed within artworks, particularly through formal organisation, metaphor, symbolism, and the artist's intellectual stance. As FA2 explained, art criticism involves understanding how artists use subject matter to convey emotion and belief, emphasising that meaning does not arise solely from surface appearance but from the artist's modes of perception and thinking. From this perspective, critical thinking functions primarily as an interpretive tool. Teachers described their role as helping students learn to attend to visual and cultural

phenomena that might otherwise be overlooked. Through structured formal analysis, such as attention to colour, composition, and style, combined with the identification of symbolic elements, narrative cues, and cultural codes, teachers seek to cultivate students' sensitivity to the complexity and ambiguity inherent in artworks. This emphasis reflects a pedagogical orientation in which critical thinking is used to deepen students' understanding of existing artworks, rather than to directly shape their personal stylistic development.

GD3's discussion of *Rat Tail Painting for the Great Man* further illustrates this orientation. He emphasised that interpretations of the work diverge: some viewers praise it as anti-war critique, while others question it as a distortion of facts, depending on historical context and the viewer's perspective. For GD3, what matters is not arriving at a final verdict but recognising that artworks operate on multiple levels what is presented, what is implied, and what is revealed metaphorically. His comments highlight the importance of examining the gap between image and meaning, and of understanding how symbols and metaphors guide, rather than determine, interpretation. This emphasis on openness and interpretive plurality reflects a key difference between teachers' and students' understandings of critical thinking. Students often describe critical thinking as a bridge between art criticism and their own creative choices, whereas teachers place greater emphasis on cultivating students' capacity for sustained interpretation, tolerance of uncertainty, and evaluation of competing readings. In line with Paul and Elder (2006), teachers stress the need to probe implicit and contested meanings and to judge interpretations in relation to evidence, context, and plausibility. The differences between teachers and students can be understood in relation to their distinct roles within the educational process. As experienced practitioners and transmitters of disciplinary knowledge, teachers are oriented towards maintaining the analytical rigour and interpretive depth inherent in art criticism itself. By contrast, students are more concerned with how critical insights might influence their developing identities and creative strategies.

Moreover, A graphic design teacher emphasised the need to focus on the appropriateness of visual language as well as social responsibility in art criticism. She gave examples:

The social controversy triggered by the illustrations of the textbooks of the Humanistic Education Edition some time ago, in which many of the images appeared anachronistically, has triggered the public's collective reflection on the ethics of design and cultural identity. (GD1)

Her emphasis reflects a disciplinary logic specific to graphic design, where images are rarely autonomous but operate within institutional, cultural, and ideological frameworks. Students are therefore encouraged to move beyond identifying formal qualities or symbolic meanings and to interrogate how visual choices may reproduce, neglect, or challenge cultural power structures. As textbook illustrations directly shape children's aesthetic sensibilities and cultural understanding, GD1 framed critical thinking as a form of public accountability, in which designers must anticipate how images participate in the construction of cultural identity. In this sense, critical thinking in design education extends from interpretation to ethical judgement. Consistent with Barthes' (1977) assertion that images are never neutral, GD1's teaching guides students to question not only what images express, but why they are expressed in particular ways and whose interests they serve.

Another graphic design teacher emphasised that critical thinking is necessary for students to avoid being swayed by subjective preferences during art critique.

We will not focus on comments regarding beauty. For instance, in typography design classes, I will require students to understand the development of typefaces and the phenomena involved in their evolution, to comprehend the formation of beauty rather than succumb to the biases arising from judgement. (GD2).

GD2 explicitly positions critical thinking as a cognitive tool for resisting subjective preference and immediate aesthetic judgement. In his teaching, “beauty” is not treated as a self-evident or universal standard, but as a historically and culturally constructed outcome whose conditions of emergence must be examined. By guiding students to understand the social contexts and technological factors underlying the evolution of typefaces, he encourages them to recognise that aesthetic judgement does not originate from personal intuition alone but is embedded within long-established cultural norms and systems of meaning.

Viewed through Paul and Elder’s (2006) theoretical framework, GD2’s pedagogical approach directly engages with key elements of critical thinking, particularly the examination of assumptions and the clarification of concepts. Students’ initial judgements of “good” or “bad” design are often grounded in unexamined assumptions, such as conflating familiarity with aesthetic value. Through historical comparison and conceptual inquiry, students are guided to identify the cultural premises underlying these judgements, thereby transforming aesthetic responses from unreflective bias into reasoned and justifiable evaluations. This process illustrates critical thinking as a self-corrective mode of reasoning, in which intuitive reactions are suspended, their validity is scrutinised, and judgement is repositioned in relation to evidence and contextual understanding. This pedagogical orientation also resonates with Housen’s (2001) theory of aesthetic development. Students move from early stages characterised by emotionally driven and preference-based responses towards more advanced levels of interpretation that draw upon historical knowledge, cultural comparison, and conceptual understanding. As a result, art criticism shifts from an expression of personal taste to a form of cognitive practice that is publicly communicable and intellectually grounded.

Another graphic design teacher further pointed out that art criticism should not be confined to formal analysis within the classroom or exhibition space. Instead, it should be viewed as a form of aesthetic awareness and judgement embedded in everyday life. He emphasised:

Students should maintain sensitivity to visual phenomena in their daily surroundings, such as identifying images in street advertisements, commercial posters, or packaging designs that feel ‘unpleasant’, ‘inappropriate’, or ‘out of place’, and reflect on how they might be improved. (GD1)

In her teaching, feelings of discomfort or visual incoherence elicited by street advertisements, commercial posters, or packaging designs are not treated as purely subjective emotions; instead, they are transformed into meaningful cognitive cues that warrant analysis. From the perspective of Paul and Elder’s (2006) framework, this pedagogical approach activates key elements of critical thinking, particularly problem awareness and metacognitive monitoring. Students are encouraged to translate immediate perceptual responses into explicit questions, such as whether the design’s communicative purpose is clear, whether its formal elements align with its contextual setting, or whether audience experience has been overlooked, thereby repositioning intuitive judgements within a process of rational scrutiny. In this way, aesthetic experience is no longer understood as a passive reception but as a judgement process that requires continual examination of its validity and appropriateness. More importantly, sustained engagement with everyday visual culture cultivates what Eisner (2002) describes as aesthetic sensitivity, enabling students to remain perceptive within environments saturated by repetitive and habitual visual stimuli. This form of sensitivity resembles artistic intuition, not as an innate or unexamined impulse, but as a trained critical capacity. It allows students to discern implicit value orientations, communicative failures, or cultural mismatches embedded within visual design practices.

However, in the specific course observations, there appeared to be some inconsistencies with what the teacher had expressed in the interview. In the observation of a Western art criticism course, the teacher focused on Impressionism and introduced major artists such as Monet and Degas. The class covered distinctive techniques and visual features, including the handling of light and shadow, composition, and the use of colour. It also discussed the socio-historical background

of nineteenth-century France, including the impact of the Industrial Revolution and the influence of photography on changes in artistic style. While this content provided students with a basic understanding of the social and cultural forces underpinning Impressionist aesthetics, most of the analysis was oriented towards reproducing established interpretations rather than encouraging students to develop original insights or to participate in the negotiation of meaning. For instance, the lesson did not raise key questions such as why Impressionism was controversial at the time or how its techniques challenged traditional artistic norms. Students were not encouraged to explore multiple perspectives or to offer open-ended interpretations.

Western art history and criticism are rooted in a tradition of argumentation, scepticism, and interpretive debate, in which meaning is constructed through questioning and justification rather than accepted as settled knowledge. Put differently, the analytical mode required to understand movements such as Impressionism is inseparable from critical thinking practices, including problem framing, the examination of assumptions, and the evaluation of competing interpretations. Yet in the observed classroom, Western content was largely transplanted into a local pedagogical logic that prioritises authoritative explanation and examinable knowledge. This may inadvertently turn an inquiry-based tradition into a set of learnable conclusions. The result is a hybrid pattern of learning in which students acquire the vocabulary of Western critique but have limited opportunities to practise the reasoning processes that make such critique intelligible. Conceptual blending therefore remains at the level of knowledge transfer rather than cognitive practice. Therefore, although the lecture format effectively conveyed historical context, it was less successful in stimulating critical thinking, particularly in the cognitive processes of understanding, evaluating, and constructing meaning. As Housen (2001) notes, without opportunities for reflective analysis, students' aesthetic judgements often remain at the level of passive reception and repetition, which limits the development of higher-order interpretive skills.

5.3 Conclusion

In summary, this chapter has examined how both teachers and students understand and apply critical thinking across two key dimensions of art practice: artistic creation and

art criticism. Analysis of interview and observational data from both fine art and graphic design contexts suggests that critical thinking is not merely a generic cognitive skill but a contextually grounded reasoning process, shaped by disciplinary conventions, educational objectives, and the roles of teachers and students. Moreover, cultural factors, including Chinese artistic traditions and socio-educational norms, further mediate how critical thinking is interpreted and enacted.

In terms of artistic creation, critical thinking functions as a process of decision-making and meaning construction. Teachers from both disciplines emphasised its role in helping students transform lived experiences into artistic expression through processes such as problem identification, conceptual clarification, and reflective judgment. Creative practice engages key elements of thought, purpose, interpretation, and inference (Paul & Elder, 2006), as students negotiate what to express, how to express it, and why particular visual strategies are appropriate. However, disciplinary differences were evident. Graphic design education foregrounds critical thinking as a structured, problem-oriented process prioritising information selection, audience awareness, and communication effectiveness. In contrast, fine art education emphasises exploration, conceptual reconstruction, and the expressive transformation of personal and social experiences, reflecting a more inward-oriented, interpretive form of critical thinking. These differences are not merely individual teaching preferences but reflect deeper curricular structures, disciplinary epistemologies, and the influence of Chinese cultural traditions, for example, the long-standing emphasis on symbolic and metaphorical representation in Chinese ink painting reinforces the integration of personal reflection, cultural knowledge, and social observation within creative reasoning.

Regarding art criticism, critical thinking was enacted both as an interpretive tool and as a cognitive ethic. Teachers guided students to analyse formal elements, symbolic meanings, and cultural contexts, while encouraging sensitivity to everyday visual phenomena. Students applied these skills to critically interrogate artworks, trace stylistic or conceptual development, and link personal experience to broader societal issues. In both fine art and graphic design, critical thinking fostered the ability to move

from surface-level observation to deeper conceptual understanding, supporting interpretive judgment (Paul & Elder, 2014). Cultural awareness emerged as a crucial component, particularly in recognising the socio-historical embeddedness of aesthetic values, symbolic codes, and audience expectations within visual communication.

Overall, this chapter demonstrates that critical thinking in Chinese art education is multidimensional and situationally embedded. It operates differently across disciplines, encompassing both inward-oriented reflection and outward-focused analysis, and is shaped not only by educational structures but also by cultural norms and expectations. By linking personal, social, and cultural contexts to interpretive and generative reasoning, critical thinking supports students in developing artistic practices that are simultaneously expressive, socially aware, and conceptually grounded. These findings provide an empirical foundation for exploring pedagogical strategies that can more systematically cultivate critical thinking within Chinese art education in the following chapter.

Chapter 6: Critical Thinking in Chinese Higher Art Pedagogy

Building on the analysis in Chapter Five of how teachers and students understand the role of critical thinking in art, I shift the focus in this chapter to the classroom context. I examine how traditional teaching practices in Chinese higher visual arts education both constrain and support the development of students' critical thinking. I explore how pedagogical environments shape key elements of critical thinking in art learning, including problem awareness, the examination of assumptions, meaning making, the formation of judgement criteria, and reflective self-regulation.

I begin by identifying the limitations of traditional classroom environments in fostering critical thinking. These limitations are closely linked to the continuing influence of the university entrance examination system, rigid assessment structures, and teacher-centred pedagogies that prioritise technical skills and standardised answers. Such approaches tend to reinforce the transmission and reproduction of established knowledge rather than encouraging students to question, test assumptions, or form independent judgements. As a result, core components of critical thinking, such as questioning, reasoning, and reflective monitoring, are often underdeveloped. This issue is particularly evident in art theory and art history courses, where teaching frequently centres on factual recall and stylistic classification, leaving limited space for students to explore the social, ethical, or cultural positions embedded in artworks. At the same time, my data show that some teachers are actively experimenting with alternative teaching strategies, including flipped classrooms. These practices appear to create more supportive conditions for the development of critical thinking by encouraging students to situate artworks within broader social, cultural, and ethical contexts, and to gradually construct their own evaluative criteria. Although international literature has widely discussed approaches such as problem-based learning and inquiry-based learning, these models were not systematically implemented in the practices observed in this study. I therefore focus on the pedagogical strategies that participants themselves identified as both relevant and

feasible within the Chinese higher education context. (Summary is shown in Figure 6.1)

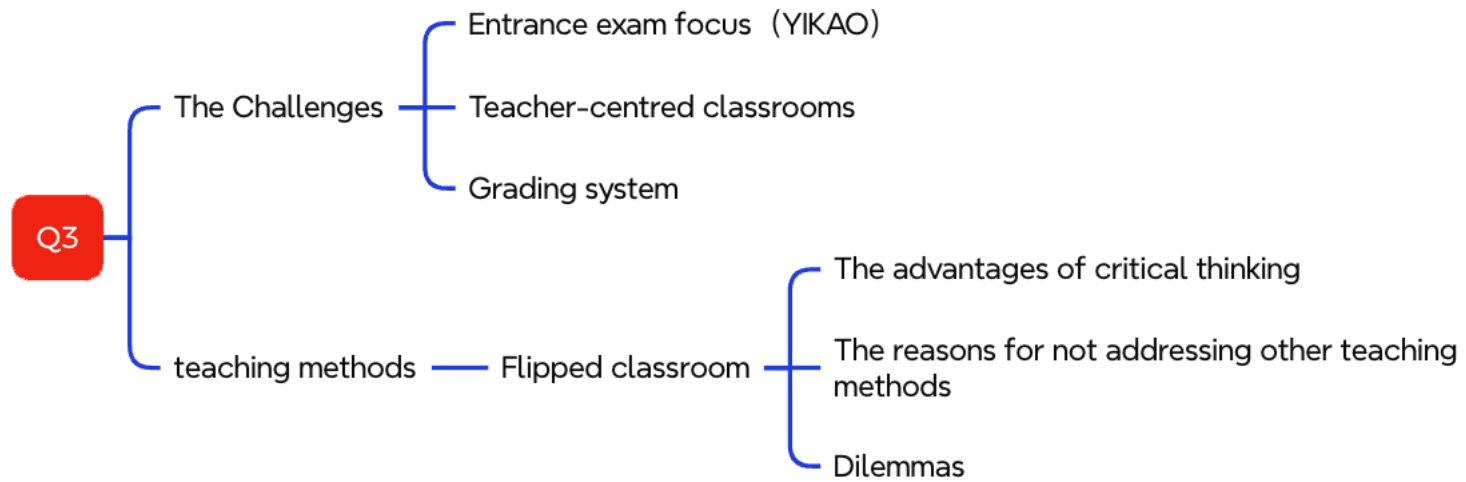


Figure 6.1 Teaching Challenges and Strategies for Critical Thinking (Q3)

6.1 The Challenges of Traditional Classrooms in Developing Critical Thinking

This section focuses on factors suggested by participants that may hinder the development of critical thinking in traditional visual art education classrooms. From the interview and observation data, various systemic factors in Chinese higher art education were felt to contribute to the persistence of passive learning habits and as a result limit students' development of critical thinking. To provide a clearer and more structured analysis, this section is divided into three subsections, each of which addresses a specific challenge. The first subsection examines the impact of the art university entrance examination system (YIKAO), which many students described as fostering habitual imitation and standardised thinking, while creating enduring difficulties in adapting to critical and reflective modes of learning at university. The second discusses how traditional classroom structures, often characterised by teacher-centred teaching and limited classroom interaction, were thought to lead to passive learning dynamics and reduced opportunities for conversational engagement and critical dialogue. The third subsection explores how course-end marking mechanisms, particularly grading criteria that focus on technical implementation or conformity to style norms, may discourage risk-taking and inhibit the development of individualised critical perspectives.

6.1.1 The Lasting Impact of the Art College Entrance Exam

As highlighted in Section 2.4, traditional Chinese visual arts education, influenced by Western models, places strong emphasis on technical training and tends to regard technical proficiency as the foundation of artistic creation (Leng, 2015). In the interviews, some students attributed this skills-oriented approach to the Yikao. As discussed in the section on the Chinese context, the Yikao has played a decisive role in shaping students' skill-focused learning methods. One student recalled how she improved her technical abilities during the preparation stage, noting that throughout the entire training process, "mastering formulas" was always the key learning objective. As she described:

I just need to memorise the drawing formulas provided by the teacher and do a lot of exercises, such as mastering the “three palaces and five eyes” in sketching, and colour coordination in painting. (GD-S5)

The student illustrates how Yikao-oriented training encourages an exam-driven mode of learning in which artistic practice is deconstructed into standardised and measurable components. Within this system, artworks are evaluated according to externally imposed criteria, such as proportional accuracy, compositional balance, and colour harmony. While such criteria allow for efficient and consistent assessment, they also narrow the scope of artistic reasoning. First, students are rarely encouraged to formulate their own questions or interrogate underlying assumptions about what constitutes “good” art. Second, artistic purpose is reduced to examination success, rather than the exploration of meaning, intention, or personal and social experience. Third, judgement criteria are treated as fixed and authoritative, leaving little room for students to develop evaluative standards through reflection and comparison (Paul & Elder, 2014). As a result, technical proficiency becomes detached from conceptual understanding and meaning making. Art is instrumentalised as a means of university admission, rather than functioning as a medium for perception, emotional expression, or intellectual inquiry. As Eisner (2002) argues, when educational systems prioritise standardisation and predictability, they risk undermining the very forms of judgement, interpretation, and ambiguity that are central to artistic thinking. In this sense, the Yikao does not shape what students learn, but also how they learn to think visually, fostering compliance with predetermined norms rather than the cultivation of reflective, self-regulated critical judgement.

As one fine art student explained:

This art is mechanical, it's force-fed to you, but it's not real art, art is freedom and imaginative, but the art exams must exist because to get into university (FA-S5).

When I was a kid, I thought drawing was just drawing all sorts of weird ideas in my head, but studying for the art exam made me no longer think of it as art. (FA-S5)

The student explicitly associates “real art” with freedom and imagination. However, her statement also reveals how examination-oriented education systematically restricts the conditions under which artistic imagination can be exercised. Within the Yikao system, imagination is not actively suppressed through explicit prohibition. Instead, it is marginalised through teaching and assessment practices that prioritise predictability, accuracy, and replicability. Artistic imagination involves the ability to explore multiple possibilities, question established visual conventions and generate personal meaning through interpretive and expressive choices (Greene, 1995). Yet the examination system encourages students to converge on a limited set of approved visual solutions, leaving little space for speculative thinking, divergent exploration, or risk-taking. As a result, students learn to associate success with following fixed models rather than with producing original ideas. This reflects a reasoning pattern dominated by certainty and compliance, in which intellectual standards such as breadth, depth, and originality are subordinated to technical correctness (Paul & Elder, 2014). Over time, such training cultivates a habitual mode of thinking. However, university is different from high school. As one fine arts teacher noted,

A university education can give you a deeper understanding and foster the formation of three perspectives. This includes all aspects of your interdisciplinary knowledge; focusing solely on skills is not at the university level (FA1).

This reflects the view that higher education should move beyond the technical focus of secondary-level training to cultivate broader artistic literacy and critical engagement. Teachers’ emphasis also resonates with students’ reflections: those who continue to rely on formulaic templates after entering university may struggle to adapt to courses that prioritise personal expression and independent judgement. This highlights the lasting impact of exam-oriented learning, which often replaces intrinsic motivation

with the external goal of passing assessments (Deci & Ryan, 2000). In this sense, the challenge for university pedagogy lies not only in developing students' technical skills but also in helping them to recover a deeper sense of curiosity and critical inquiry within artistic practice. What the teacher said was confirmed by a student.

University teachers are not like YIKAO teachers, they seldom go to do model paintings, so I hope that the teacher goes to do the guidance in the beginning, for example, in teaching sketching or whatever, the teacher goes to do a demonstration painting, in fact, that one is the most effective in terms of progress. (FA-S2)

FA-S2's reference to the desire for teachers to "guide" and "demonstrate", especially in terms of technical progress, and the emphasis on model drawing as the most effective, suggests that students are still accustomed to learning through teacher-demonstration and student-imitation. This is the main way in which high schools are trained for exams, with the aim of producing standardised work and achieving specific skills, rather than independent exploration. The fact that students are particularly sensitive to technological advances suggests that they equate art learning with technological advancement, ignoring the greater emphasis on conceptual development and training at the level of thinking in university art education mentioned by the teacher above. This means that the inhibiting effect of test-based education on students' critical thinking persists and manifests itself in the early years of university in the form of a reliance on standard answers and a lack of confidence in individual judgement. Other students have also mentioned that they are affected by YIKAO when it comes to their university coursework

We in Guangxi like bright colours for our art exam grading, so I got a higher grade in YIKAO for bright colours than my friend who painted advanced grey. (GD-S3)

(High-grade grey: refers to a colour preference for the college entrance examination that is more popular in the Jiangsu and Zhejiang regions of China and is two separate

colour preferences compared to the very bright colours in Guangxi mentioned in the interviewer's account.)

Next, the student stated that his favourite artist's work was also motivated by a love of colour,

I like Yang Liuqing's work because the colours are very strong, and I continue to use these exaggerated and bright colours when I create my work. (GD-S3)

The interviews indicate that Yikao preparation not only shapes students' technical abilities but also stabilises their sense of what counts as "good" visual language. In GD-S3's account, "bright colours" are not merely a personal preference. They function as a learnt evaluative rule formed through repeated exposure to scoring feedback and comparison with peers. In other words, the Yikao operates as an institutional system that converts aesthetic judgement into a predictable and measurable outcome. When "high scores" become the primary indicator of quality, students have stronger incentives to treat colour choice as a strategic decision aligned with assessment criteria, rather than as an expressive or interpretive choice that requires justification.

This mechanism also helps explain why regional contrasts, such as Guangxi's preference for vivid palettes and the "high-grade grey" commonly used in Jiangsu and Zhejiang, appear so prominently in students' narratives. These differences are not simply stylistic trends. They reflect how local training markets, teachers' exemplars, and examiner expectations converge into a recognisable visual template, which is assumed to be more favourable for scoring. Students learn to reproduce a palette that has been socially validated through past results, model answers, and teachers' demonstrations. Over time, colour choice becomes normalised as common sense, so that "bright equals good" is no longer treated as a strategy but increasingly experienced as an aesthetic truth. Once such preferences are formed through high-frequency practice, they can enter university as entrenched habits. Higher education does not automatically disrupt these habits, because students arrive with ready-made evaluative standards shaped by external reward. This can reduce their motivation to raise critical

questions, such as why they prefer a particular palette, what meanings or cultural associations different colour systems may carry, and how alternative visual languages might serve different purposes and audiences. As a result, the logic of preference, repetition, and familiarity may displace a more reflective process of expanding visual possibilities, examining assumptions, and testing interpretations across contexts. In this sense, it becomes more difficult for students to engage in the open-ended and critically informed learning that university-level art education expects.

However, it is worth noting that although most students believed the college entrance examination limited their thinking, classroom observations revealed that some students particularly those in fine art demonstrated a strong sense of self-exploration. In both their creative work and class discussions, many expressed a desire to develop their own style, questioned aesthetic standards, and engaged with deeper social issues such as Alzheimer's disease and gender equality. These behaviours reflect a more advanced level of thinking, moving from simply critiquing past experiences to actively exploring new possibilities. As one graphic design teacher explained, this shift stems from their university learning experience:

Some students come from high school, and it's especially obvious in their first year. They can't tell whether their own work is good or bad, they don't have their own judgment. If the teacher says it's good, then it's good. That's because this part was missing in their earlier education. But when they enter university, we make this point clear. In university, they must learn to think and study independently. It's much better now. (GD1)

The teacher pointed out that first-year students often showed uncertainty about their own ideas and tended to rely on teachers' evaluations, reflecting a dependent thinking pattern. This closely aligns with how students themselves described the lingering effects of exam-oriented thinking in the interviews. However, the teacher also emphasised that university education especially during the first two years played a key role in guiding students to think and learn independently. This analysis suggests that while exam-driven thinking does have a lasting impact on students' cognition, higher

education offers a corrective effect. Through open and critical classroom practices, students can gradually break away from habitual thinking patterns, leading to positive changes in their cognitive structure. It indicates that in more exploratory and open university art classrooms, students are increasingly able to overcome the limitations imposed by exam-based training, rebuild a critical perspective, and develop more individualised forms of expression. Thus, it is demonstrated that university education practices exert a positive influence on the development of critical thinking.

Another student mentioned the different university application systems in Western countries:

For the application, you need to prepare a portfolio, which is interesting. It's not just about drawing a picture, but about doing research and thinking through things. (GD-S6)

From the students' perspective, the Western portfolio system requires applicants not only to present finished works but also to demonstrate the processes of idea generation, experimentation, and reflection. This approach fosters critical thinking by cultivating habits of inquiry and justification: students must explain why they selected a particular theme, how they developed it, and what message or viewpoint they wished to convey. In doing so, they are encouraged to regard art as a form of argument or dialogue rather than as a purely technical display. In this way, the structure of the portfolio itself provides a foundation for self-reflection, originality, and interpretive analysis before students even enter higher education. By contrast, the YIKAO in China reflects a different educational logic. As one interviewed teacher emphasised:

The YIKAO should not be understood as a limitation. Given China's large population, examinations play a crucial role in selecting students quickly and in a measurable way. China needs a fair and efficient method of identifying talent. (GD4)

From this perspective, the examination reflects both the realities of Chinese educational governance and wider social expectations. The comparison suggests that the Western portfolio system more directly fosters critical thinking through reflection and interpretation, but its success relies on smaller applicant pools, institutional resources, and cultural traditions that value personal expression. In contrast, the YIKAO ensures large-scale access and comparability, yet neglects critical engagement. This highlights that admissions systems are not neutral mechanisms but cultural products embodying specific educational values. Therefore, for Chinese higher art education, the challenge lies in exploring how reflective and critical dimensions can gradually be integrated into a system that must continue to balance efficiency with fairness.

In summary, the YIKAO system has had a profound and continuous impact on the development of students' critical thinking. Exam-oriented training not only shapes students' understanding of art forms and standards on a technical level, but also reinforces dependent thinking and the pursuit of uniform answers on a cognitive and psychological level. This inertia does not automatically dissolve at the university level, but rather limits students' active exposure to multiple perspectives and critical issues and their ability to think critically in a more open and exploratory learning environment. Although some students begin to show in-depth thinking about their own style, social issues and the nature of art in higher education, the skill orientation, template reliance and single evaluation formed by the art examination system still constitutes an important challenge to the teaching of critical thinking in colleges and universities.

6.1.2 Passive Learning and the Limitation of Classroom Interaction

Although in the previous section the teacher GD1 mentioned that university courses give students more freedom of thought and expression to help them make up for their high school knowledge of art, this is more often the case in practical courses such as illustration, typography, graphic design, information design, and special student-

centred courses. However, art history appreciation classes, which are theoretical classes that explore in detail important eras, genres, and artists in art history, and the historical, cultural, and social contexts surrounding their creation, continue to follow the traditional teacher-centred teaching model. I conducted an observational study of an art history appreciation course (the content of the course and the instructor were the same for different majors). The following is an excerpt from a dialogue between one of the instructors and his students in the course,

The teacher asked:

Do any of the students know who the founder of Impressionism was? What painters belonged to the Impressionists? (Observation, Fine art teacher)

After a brief pause, several students whispered answers such as “*Manet, Monet.*” The teacher then followed up:

What are their masterpieces? (Observation, Fine art teacher)

Students replied:

Impression, Sunrise; Water Lilies. (Observation, Fine art students)

Excerpts from classroom dialogues clearly showed that teaching and learning in these environments was largely based on closed question-and-answer interactions. Teachers typically asked factual questions, such as naming the founders of Impressionism or identifying well-known works, and students responded with short, quiet phrases. Such exchanges rarely reflected deeper reflection or personal interpretation. This approach reflects a knowledge retrieval learning model in which students passively receive information and internalise it through memory. As Prince (2004) point out, this passive learning environment fails to develop critical skills such as interpreting artefacts or engaging in thoughtful discussion. A key limitation of this model is the lack of problem awareness i.e. the ability to identify, formulate and explore meaningful questions.

According to Paul and Elder (2014), critical thinking goes beyond analysing or evaluating information and begins with the ability to identify problems and ask substantive questions. Without this foundation, students tend to develop only surface-level understanding with limited potential for deeper reflection (Chin & Osborne, 2008).

As discussed in section 5.3.2, both students and teachers agreed that critical thinking was at the heart of art criticism, and that this involves more than just setting out facts, but also interpreting and evaluating judgements (Barrett, 2012). Facione (1990) similarly argues that critical thinking involves analysing causality and underlying logic, rather than just recalling information. Students ask questions such as ‘Why were these artefacts created in this way?’ or questions like "Why were these artworks created in this way? Or ‘What values underpin this style?’ Begin to make such inferences. However, when classroom instruction lacks thematic scaffolding or space for inquiry, students often fail to develop an understanding of the question. As a result, classroom discussions remain limited to recalling facts rather than evolving into critical dialogue (Kuhn, 1999). This was confirmed in the interviews,

The professional foundation consists of theory and software courses. The theory stuff is basically textbook generalisations. (GD-S6)

Students also realised the importance of classroom initiative,

And I think one thing that's not so good is that most of the theory courses he won't let us prep. For example, today we are going to study classicalism, I hope the teacher will tell us that we will study this in the next class, so we can learn something about it and do some data analysis. This way, when he talks about it, I think it will make me accept the support more quickly and understand it more deeply. (FA-S6)

Student FA-S6 expressed dissatisfaction with the lack of autonomy in her theory classes, noting that “we’re not asked to do any preparation.” She hoped that teachers

would inform students of the next session's content in advance, so that she could be cognitively prepared beforehand. This comment reflects the linear and didactic nature of traditional teaching in many theory courses, where knowledge is transmitted one-way from teacher to student, leaving little room for prior conceptual engagement or anticipatory thinking. The development of critical thinking requires students to approach learning with questions in mind, allowing them to compare meanings and reconstruct understanding through active judgment during the lesson. However, under the current model where there is no preparation, no questioning, and only direct instruction students are confined to the teacher's predefined path of understanding, rather than being encouraged to challenge ideas or initiate intellectual inquiry. From both a curricular and institutional design perspective, integrating task-based preparatory activities into theory courses may offer a valuable opportunity to enhance the development of critical thinking. It would allow students to build prior knowledge, formulate questions, and approach classroom content with greater critical engagement.

Although traditional classrooms are often dominated by didactic instruction and teacher authority structures that tend to suppress interaction and questioning, this does not imply that students lack critical thinking abilities. Rather, as shown in the interviews presented in Section 5.3, some students demonstrated a notable capacity for critical reflection, particularly in the context of art criticism. For example, they were not only able to identify the formal features of artworks, but also actively explored the underlying cultural and social meanings. This suggests that traditional teaching structures do not eliminate students' critical potential; rather, they suppress it within specific classroom contexts. A student in graphic design offered an illustration of this dynamic. She explained that while theoretical classes allowed her to passively absorb knowledge from textbooks, her creative work often triggered internal debates and critical doubt:

When I engage in my own creation, I question my ideas and my work. But if I don't want to think, I can just sit and listen in theory class and learn from the book. (GD-S2)

She further described how social and cultural expectations discouraged open classroom interaction:

Sometimes I argue with myself silently. I build a point based on the teacher's view, then I contradict it myself. While the teacher moves on to the next topic, I'm still in my own debate. (GD-S2)

GD-S2's account reveals a phenomenon: within traditional classroom settings, critical thinking is not absent. Rather than suspending judgement or accepting the teacher's views as definitive, she continues to evaluate, revise, and counter arguments through what she describes as "arguing with myself silently." This suggests that her critical thinking operates primarily as an internal cognitive activity rather than as overt classroom participation. As Biggs (2003) notes, within Confucian-influenced educational cultures, students often prioritise self-restraint and self-regulation in order to maintain social harmony, rather than expressing disagreement through public confrontation. In Chinese classroom contexts that emphasise order, respect for authority, and collective harmony, openly questioning a teacher may be perceived as disrupting the flow of teaching or causing others to lose face. Under such conditions, GD-S2's choice to conduct her reasoning internally should not be interpreted as a lack of evaluative capacity, but as a culturally shaped response to the norms governing classroom interaction.

By contrast, Western traditions of critical thinking have tended to privilege externalised practices (Facione, 1990), critical thinking has frequently been conceptualised as something that becomes visible through questioning, argumentation, and participation in discussion. As a result, critical engagement is often assessed through verbal articulation and public reasoning. This raises an important question as to whether internalised forms of critique are recognised as critical thinking. From the perspective of Paul and Elder's (2006) framework, however, GD-S2's "silent thinking" still clearly engages the core mechanisms of critical thinking, particularly self-monitoring, assumption testing, and reflective judgement. Her repeated construction and rejection of arguments demonstrates an active evaluation of information and an

ongoing examination of logical consistency between competing viewpoints. The absence of public expression does not negate the presence of critical reasoning; rather, it indicates that this reasoning remains at an individual level rather than being translated into collective dialogue.

Notably, GD-S2 reported that she was able to question her ideas more freely during her own creative practice. This contrast highlights the role of context in shaping how critical thinking is expressed. Creative work afforded her greater autonomy and carried lower social risk than formal classroom discussion. Within this space, critical thinking no longer needed to conform to classroom hierarchies or interactional norms, allowing her to focus more openly on purpose, problems, and meaning. This contrast underscores the importance of pedagogical environments that recognise culturally situated forms of critical thinking and provide multiple avenues for its expression, rather than equating criticality solely with verbal participation.

Not all participants regarded the traditional classroom model as purely restrictive. For example, one graphic design student explained that she preferred teacher-centred instruction, as it enabled her to receive more structured guidance:

I like the traditional classroom because the teacher's explanations are clear, and I can directly learn more information from them (GD-S5).

From her perspective, the teacher's authority provided a sense of direction and efficiency, ensuring that a large amount of content could be covered within a relatively short time. This suggests that while teacher-led classrooms may restrict opportunities for open-ended discussion, some students valued the clarity, structure, and sense of security that such environments provide. Clear and well-organised explanations can reduce cognitive load and establish a shared conceptual framework, allowing students to focus on understanding the reasoning, subsequent content, and possible alternatives. Moreover, a structured teaching style ensures equal access to core ideas, which can then be reinvested in short, targeted critique activities. In this sense, authority is not necessarily an obstacle to dialogue but rather a scaffold that stabilises the knowledge

base and standards of evidence, enabling subsequent critical engagement to become more rigorous and inclusive.

6.1.3 Restrictive Assessment and the Suppression of Individual Thinking

As emphasised in the teacher interviews in Chapter 4 teacher generally viewed critical thinking not merely as a cognitive skill but as a socially oriented way of thinking. Its core objective, they suggested, is to guide students in understanding social phenomena, reflecting on cultural issues, and participating in public discourse through artistic creation. As one teacher noted,

Students need not only to analyse, but also to learn how to express their responses to reality through their work. (GD1)

However, in actual teaching practice, this strong emphasis on the social function of art can unintentionally create a new form of normative pressure. During an observed graphic design class, a teacher responded to a student's design project, an urban village survival guide by stating, "You're not making a decorative piece; you're designing a visual guide to social space." The teacher went on to stress that the purpose of design should be "to deliver important information to the audience, rather than being just visually appealing." Throughout the session, the teacher repeatedly asked questions such as, "What information do you want the audience to gain about the urban village?" and "What is the social stance of this design?" While these questions encouraged students to consider the social impact of their work, they also appeared to reinforce a narrow evaluative framework centred on whether the work addressed real-world issues.

In a fine art class, one student chose to explore themes of anxiety and psychological stress. Her work used data visualisation and emotionally charged visual language to highlight the mental strain young people face in social relationships. This observation illustrates how students attempt to connect personal experiences with broader social issues, reflecting the social awareness.

During the critique, however, the teacher shifted the focus towards the *purpose* of art and its communicative function:

Critique is important, but it can't stop at emotional outpouring. Art should also be directive; do you want your audience to resonate with your work or be awakened by it? (Observation, Fine art teacher)

This feedback encouraged the student to move beyond self-expression towards considering the social impact of art, however the student defended the expressive power of emotion, emphasising immediacy and honesty:

I think emotional expression is the most honest form of feedback, especially when using strong colour contrasts that immediately convey conflict and pressure to the viewer. (Observation, Fine art student)

The exchange demonstrates a tension between emotional expression and critical social reflection. In this teaching atmosphere, student work is often strongly steered towards social issue-based themes, while other forms of expression, those that are more individual, abstract, or experimental may become marginalised. Some students acknowledged in interviews that they had adapted to this implicit expectation:

If you want a high mark, you must make something with social significance. (FA-S5)

This suggests that although teachers aimed to foster critical thinking by encouraging responses to social issues, when this becomes the dominant criterion for assessment, it can restrict students' creative exploration. In doing so, it may undermine the openness and diversity that are essential to critical thinking.

Classroom observations and interview data suggest that when pedagogical values become embedded in grading preferences, students' creative choices are notably constrained, limiting the development of critical thinking. As graphic design student remarked:

The main theme must be healthy; it must be upward... if it's not, it just won't be recognised. (GD-S2)

Although the teacher emphasised the importance of critical thinking and the social function of art, certain elements influencing critical thinking when applied as assessment criteria for works. Encouraging students to respond to social issues can indeed activate key elements of thought such as purpose, meaning, and point of view (Paul & Elder, 2014). Under such guidance, students consider what their work aims to achieve, which audiences it addresses, and what social impacts it may generate. In this sense, socially oriented assessment has the potential to strengthen students' awareness of responsibility, relevance, and public significance. However, classroom observations and interview data indicate that when this orientation becomes embedded in grading preferences, it may also constrain other core dimensions of critical thinking. As GD-S2 noted, "the theme must be healthy," which reveals how a particular value stance is normalised within the curriculum and, in turn, shapes students' implicit assumptions about what counts as legitimate artistic inquiry. Rather than encouraging students to question values, the assessment framework quietly prescribes them. At the same time, such an approach can undermine the intellectual standards of breadth, depth, and fairness. Students may be discouraged from exploring alternative perspectives, marginalised experiences, or emotionally complex realities. As a result, critical thinking becomes oriented towards compliance rather than inquiry. Students learn to anticipate evaluative expectations and adjust their creative decisions, accordingly, prioritising thematic safety over interpretive risk or conceptual challenge.

Some students pointed out that, to achieve high marks, they often must cater to the personal preferences of different teachers. As one student explained:

Each teacher likes different things. Some prefer topics about technology and social development. So, with every new class, you must adjust your work to fit what they like, to produce something they think is good. It feels like I'm a painter creating a commissioned piece. (FA-S5)

Like GD-S2's experience, fine art students' accounts also reveal an imbalance of evaluative power between teachers and students. However, this imbalance operates differently in fine art and graphic design. In graphic design, students often need to anticipate teachers' preferences regarding social themes, value orientations, and visual strategies to ensure that their work meets expectations of "appropriate" or "correct" expression. In this context, power is mainly exercised through teachers' authority to define the goals and expected effects of a design outcome. As a result, students' critical thinking can be channelled into a strategic form of reasoning, focused on adjusting creative decisions within an established framework to gain approval. This reduces the likelihood that students will question the evaluative standards themselves, and instead encourages them to concentrate on how to respond to those standards as effectively as possible.

By contrast, in fine art, teacher–student power relations are more strongly expressed through interpretive authority and value judgement. Because fine art practice foregrounds personal expression, emotional depth, and artistic positioning, while evaluative criteria remain relatively open, teachers' personal aesthetic orientations, artistic beliefs, and professional experiences can easily become implicit benchmarks for judgement. When "good work" is understood by students as work that aligns with a particular teacher's artistic temperament or value position, evaluative power becomes highly personalised. In such an environment, students often find it difficult to determine whether conceptual depth, formal exploration, or alignment with a teacher's aesthetic preference is the decisive factor. This uncertainty is not necessarily produced by overt suppression, but by the ambiguity of assessment criteria, which can lead students to adjust their self-expression to fit authoritative expectations. Taken together, these two contexts weaken the intellectual standards of fairness and consistency within critical thinking (Paul & Elder, 2014). In both settings, students struggle to test their reasoning against clear, publicly discussable criteria. Instead, they are pushed to shift their evaluative focus from whether the work is justified and reasonable to whether the teacher approves of it.

A graphic design teacher also acknowledged this concern, stating:

We focus on the result. I personally believe the students are quite active, but there isn't a space for development where things aren't judged as right or wrong. After all, we operate under a points-based system. No matter how we teach, in the end, we still must assign marks. And once marking is involved, there's always a judgement of good or bad. (GD2)

This implies that teachers are also aware of this, while at the same time being constrained by the teaching system. As GD2 admits, "No matter how we teach, in the end we still have to assign marks." Even when teachers recognise the value of encouraging open expression, they remain limited by rigid assessment frameworks. Therefore, reforming result-oriented evaluation systems and creating platforms where expression is not solely driven by marks is a crucial step towards fostering genuine critical thinking in art education.

Overall, Exam-oriented classrooms, teacher-led instruction, and limited creative opportunities are closely linked and mutually reinforcing. Exam-driven assessment pushes students towards correct, standardised answers and shifts learning from meaning-making to score attainment. Within critical thinking, the question element is narrowed to "what is correct" rather than "what is worth exploring," which reduces opportunities to identify and test the assumptions behind artistic judgement. This logic also strengthens teacher authority, so students rely more on given interpretations than on comparing viewpoints or justifying their own readings with evidence. As a result, key intellectual standards such as breadth, depth, and fairness are often displaced by technical accuracy and compliance. At the same time, some participants noted practical benefits. Teacher-led structures can provide clear content, strong discipline, and efficient coverage of core material. These reflections suggest that although exam culture, authority, and limited dialogue constrain critical thinking, structured guidance can still serve as a starting point for more reflective and participatory learning, if questioning, justification, and alternative interpretation are gradually normalised in classroom routines.

6.2 Current critical thinking Pedagogical Approaches in Art Education

Although the traditional Chinese classroom teaching model, as mentioned in the previous section, is usually teacher-centred, dominated by rote learning, with limited teacher-student interaction, and as such can pose a challenge to the development of critical thinking, many teachers in the interviews mentioned that schools are beginning to recognise the limitations of the traditional classroom and are adopting alternative teaching strategies. The flipped classroom model has received particular attention in the field of higher arts education, and it was mentioned by many of my participants. The flipped classroom is often defined as a student-centred learning model in which students learn the basics on their own through materials such as videos prior to the class, and class time is spent primarily on interaction, discussion, and hands-on activities (Bishop & Verleger 2013). One teacher explained what a flipped classroom entails:

Before, during, and after class are all combined into one. Then before the class, I might jot down the points I'm going to teach my students ahead of time, so they're prepared before the class. Have him study first, find the information on his own, and then take the initiative to learn about the lesson. And then have him bring the prepared information to class. (GD1)

This teacher's account reflects a fundamental shift from the traditional lecture-based delivery to a scenario where students are exposed to content prior to class and use class time for deeper exploration and application. This approach echoes Bergmann and Sams' (2012) definition of flipped learning: shifting instruction to a personal learning space and transforming the classroom into a dynamic and interactive learning environment. By requiring students to research and prepare before class, the teacher creates opportunities for independent learning, a key component of critical thinking. When students take the initiative to gather information, evaluate resources, and enter the classroom well-prepared to participate in discussions, they actively engage in the

cognitive processes of interpreting, analysing, and reasoning. Explained in terms of Paul and Elder's (2006) model, this approach to teaching and learning supports the development of multiple elements of thinking, particularly information, concepts and reasoning. Students are encouraged to independently identify and select relevant content and to apply this knowledge in class discussions - thus actively constructing meaning through reasoning, rather than passively receiving content as in a traditional classroom. At the same time the flipped classroom model compensates for the type of learning discussed in the previous subsection in which students mentioned the lack of preview in the traditional classroom.

Another teacher, who specialised in information design, emphasised the role of flipped classroom practices in strengthening students' ability to gather and process information. As he explained,

I just tell students to find the information themselves. For example, if you want to create an infographic about the artist Zaha Hadid, you'll need to consult many websites, academic papers, images, and so on. (GD3).

In the interview within Chapter 5.1.1, the teacher emphasised how information gathering shapes students' creative processes. However, his comments here reveal how this emphasis is deliberately embedded within the flipped classroom approach. This process requires students to collect information from multiple perspectives before class, assess its relevance to the task, and establish criteria for excluding irrelevant content. For example, if the project involves creating an infographic about Zaha Hadid, the core task would focus on her upbringing, educational background, and architectural contributions. Peripheral details, no matter how engaging, must be discarded if they do not align with the learning objectives. This filtering process reflects the application of purpose and relevance as described by Paul and Elder (2014): guiding students to clarify their investigative goals and use these goals as the basis for judging information. In doing so, they also practise evaluating assumptions, such as why certain biographical details matter, as well as assessing different accounts of her career and inferring which materials best convey her significance. Once this information has been

gathered, the task shifts towards initial understanding and analysis. Here, interpretation goes beyond summarising factual content to considering its meaning, for instance, how Hadid's education and cultural background shaped her distinctive architectural style. This reflects a transition from descriptive thinking to what Paul and Elder refer to as interpretive judgement. Within this shift, students not only grasp conceptual content but also articulate its significance within a broader framework.

Another teacher referred to the classroom as a good place for problem solving, noting:

Students finish gathering information and come to class with questions.

The focus of the classroom is on problem solving. The classroom is no longer just a place to impart knowledge; it becomes a space for problem solving and responding to problems. (GD1)

This teacher realised that when students encountered ambiguous or inconsistent concepts in their independent research, this signalled the discovery of a problem, which is one of the elements from which critical thinking emerges. Rather than providing predetermined answers, the teacher encouraged students to confront their own uncertainties and bring them into the classroom for discussion. From a constructivist and critical thinking perspective, this approach encourages students to use questions as a starting point for deeper reflection and reasoning. In the words of Paul and Elder (2006), this process activates elements such as issues, concepts and clarity. Students not only explore factual content, but also identify gaps in understanding, ask meaningful questions, and refine conceptual frameworks through dialogue and reflection. In addition, this form of instruction redefines the role of the teacher as a facilitator of understanding rather than the sole source of knowledge. It positions the classroom as a collaborative problem-solving environment where the teacher's expertise can help students cope with complex problems rather than merely imparting content. This dynamic mechanism reinforces the development of students' intellectual autonomy and reflective judgement - core attributes of critical thinkers.

6.2.1 Pedagogical Dilemmas

While flipped classrooms are designed to foster autonomy and critical thinking, it's essential to acknowledge that not all students may find this approach conducive to their learning. One student expressed:

Flipped classrooms are indeed a good practice, but we are all very anxious, especially when I must present in front of others. I cannot hear anything anyone else is saying. I only feel relieved once I've finished my own task.
(GD-S5)

This emotion highlights the role of affective barriers. The anxiety students experience during public speaking and peer assessment may overshadow the intended benefits of active learning and critical engagement. Research has shown that emotional factors such as anxiety and lack of confidence can significantly affect students' ability to think critically. For example, Brookfield (2011) emphasised that students' emotional states play a crucial role in their capacity for critical thinking. When students are immersed in fear or anxiety, their cognitive resources are diverted, making it difficult for them to process information deeply or to engage in reflective thought. As mentioned in the previous subsection, the student who preferred traditional classrooms illustrates that the success of flipped classroom methods largely depends on students' self-regulation and motivation to learn. Without sufficient support and scaffolding, this may result in only superficial participation, where the main goal becomes task completion rather than meaningful learning.

Although Section 6.1 emphasised the negative impact of traditional classrooms on the development of critical thinking, the pedagogical challenges faced by teachers extend beyond these structural constraints. Many educators reported that even when they attempted to introduce more open approaches, such as the flipped classroom, they encountered tensions that limited their effectiveness. As one design teacher observed:

No matter how free the classroom may appear, it ultimately comes back to the final grading mechanism. (GD2)

This illustrates a recurring dilemma: while innovative pedagogies encourage student autonomy, collaboration, and critical engagement, assessment practices remain tied to rigid standards that prioritise technical execution and measurable outcomes. As a result, teachers find themselves negotiating between institutional demands for standardised performance and their own aspirations to foster critical and independent thinking. This contradiction highlights that the challenge is not simply shifting from traditional to innovative methods, but rather reconciling teaching aims with the structures of assessment systems.

Many students have been deeply influenced by traditional examination-oriented education, in which success depends on reproducing existing knowledge and meeting teachers' expectations. When teachers attempt to introduce critical thinking tasks, such as open discussion or independent research, students often feel uncertain or even resistant. As noted in the previous subsection by graphic design student GD-S5, another student also referred to this issue:

I mentioned this problem in the dormitory. One person resisted. It wasn't that they objected to the format itself, they were simply afraid of speaking out, just social anxiety, they were afraid of everyone's attention being on them. (GD-S2)

This resistance suggests that pedagogical innovation is not only about changing classroom methods but also about reshaping students' learning habits and expectations. Unless these underlying attitudes are addressed, attempts to foster critical thinking may remain superficial, as students will continue to rely on the strategies that feel safer within an assessment-driven culture.

A further dilemma lies in the structural rigidity of institutional curricula. Several teachers, including design teacher GD1 and GD2 as well as fine art teacher FA2,

pointed out that the university operates with fixed teaching requirements and pre-determined course structures. These frameworks leave little space for pedagogical flexibility, making it difficult to introduce activities specifically designed to foster students' critical thinking. Even when teachers recognise the importance of cultivating critical engagement, they are constrained by the pressure to cover prescribed content, adhere to timetabled modules, and meet standardised assessment expectations. As a result, the cultivation of critical thinking often becomes marginalised or subordinated to technical training and syllabus completion. This dilemma highlights a systemic tension: while critical thinking is widely acknowledged as an educational priority, institutional regulations and rigid scheduling significantly reduce the scope for its meaningful integration into everyday teaching. Therefore, in response to the above three dilemmas, I proposed the future direction.

Although the flipped classroom was the teaching strategy most frequently mentioned in the interviews, participants rarely referred to other approaches commonly discussed in the literature, such as reflective pedagogy, problem-based learning, project-based learning, and studio-based learning. This pattern is not simply a matter of individual preference. Rather, it reflects how pedagogical innovations become intelligible and practicable only under cultural and institutional conditions.

One possible explanation is that the flipped classroom aligns more closely with the dominant teaching logic in Chinese higher education, where teaching is often organised around efficiency, curriculum coverage, and examination outcomes. The flipped model enables teachers to maintain stronger control over pacing and knowledge boundaries, while still demonstrating the advantages associated with student agency and critical engagement. In other words, it can be implemented as an adjustment of instructional sequence, with students conducting research before class and teachers consolidating and building knowledge during class. Within a Confucian influenced educational tradition, teacher authority and structured guidance are often regarded as legitimate and, at times, necessary conditions for effective learning. In this sense, the flipped classroom may be perceived as a culturally safer form of autonomous learning.

By contrast, problem-based learning, project based learning, and reflective pedagogies were mentioned less frequently because they often depend on a learning culture that legitimises uncertainty, sustained inquiry, and the negotiation of meaning. Their assessment practices also tend to reward the quality of process, argumentation, and interpretation, rather than the rapid production of expected answers (Hmelo Silver, 2004; Savery, 2006). However, in many Chinese university settings, students' prior educational experiences, especially exam-oriented schooling, can foster risk avoidance and a preference for clearly defined criteria of success. Under such conditions, inquiry-based approaches can easily be reduced to task completion rather than genuine inquiry, because students may prioritise how to achieve high grades instead of testing assumptions, exploring alternative perspectives, or challenging existing frameworks. This does not necessarily indicate a lack of student capability. Rather, it is an expected consequence when inquiry-based pedagogy is introduced into an assessment system that still privileges correctness, efficiency, and teacher defined standards.

Reflective pedagogy faces similar constraints. In many Western traditions, reflection is understood as a dialogic practice in which learners articulate uncertainty, examine assumptions, and make their reasoning visible (Brookfield, 2017; Schön, 1983). In Chinese classrooms, however, reflection is more commonly interpreted as a private form of self-improvement or moral cultivation rather than public argumentation. This cultural framing can make reflective activities appear more like an individual disposition than a structured pedagogical method. In other words, reflection may exist in practice, but it is not necessarily recognised by teachers as a distinct category within their professional vocabulary.

Studio based learning shows a further contrast across disciplines. In fine art, studio pedagogy is often treated as an established default rather than an innovation worthy of being named, which may explain why fine art teachers did not present it as a deliberate strategy. In graphic design, however, studio-based learning requires infrastructural and organisational conditions, including time, space, a culture of critique, and iterative feedback cycles. These conditions are difficult to realise fully within large classes or

time compressed, outcome-oriented modules (Orr & Shreeve, 2018). Moreover, design curricula in China often require students to demonstrate functionality, which can lead studio critique to focus on appropriateness and communicative effectiveness rather than open ended conceptual exploration. In this context, one design tutor noted that studio-based learning in graphic design remained at a preparatory stage (GD1), because it requires not only curricular reform but also broader cultural and institutional shifts in how critique, risk taking, and evaluative authority are organised and regulated.

In addition, the discussion of flipped classroom experience in this section mainly comes from graphic design participants. This does not mean that fine art lacks critical teaching practice. It reflects differences in task structure and assessment logic across the two disciplines. Graphic design is usually organised around external briefs, user needs, and measurable criteria, so the staged process of a flipped classroom is more visible to both teachers and students. Fine art places more emphasis on open questions, personal position, and meaning generation. Related critical activity is often embedded in studio dialogue and reflective making and is not always labelled as a flipped classroom approach. The two disciplines also differ in how questions are framed. Fine art students more often use exploratory and open questions to drive their work, such as why a particular visual metaphor is chosen or how conflicting experience can be expressed. Graphic design students are more often constrained by externally defined goals, such as brand positioning, audience feedback, and delivery standards. This difference suggests that the focus of critical thinking is not the same across the two fields. Fine art places greater emphasis on questioning assumptions, standpoint, and meaning. Graphic design places greater emphasis on comparing options under constraints, justifying trade-offs, and improving decisions. In short, flipped classroom practice is easier to standardise in graphic design, while in fine art it requires stronger reflective scaffolding and process-based assessment.

6.3 Conclusion

In this chapter, I discussed teacher-centred classrooms, exam-oriented teaching, outcome-focused assessment, and strict evaluation systems. These structures limit

students' opportunities to raise genuine questions, challenge underlying assumptions, construct personal meaning, and apply intellectual standards such as breadth, depth, and fairness in Paul and Elder's framework (2006, 2014). Instead, reasoning is often reduced to technical accuracy, repetition of accepted knowledge, and strategic compliance with assessment criteria.

At the same time, I argued that the introduction of flipped classroom practice shows strong potential for activating critical thinking processes. It requires students to gather, select, interpret, and reorganise information, and therefore engages key elements such as clear purpose, relevance judgement, interpretation, and reflective self-monitoring. It also creates space for dialogue, collaborative enquiry, and iterative decision-making. However, I also found that its effectiveness is still constrained by deeply rooted assumptions of teacher authority, rigid curriculum structures, and assessment systems that reward conformity and predictable outcomes. As a result, critical thinking in flipped classrooms often remains within narrow boundaries. Students may improve information-processing skills, but opportunities to take risks, challenge assumptions, and construct open-ended meaning remain limited. In addition, the limited use of reflective pedagogy, problem-based learning, and studio enquiry suggests that forms of critical thinking that depend on uncertainty, negotiated meaning, and evaluative autonomy are difficult to sustain within the current institutional and cultural framework.

Overall, Chinese higher visual arts courses offer more room for development in elements such as information search and selection, relevance testing, and interpretation within clearly structured tasks. In other words, under current conditions, procedural and analytical operations are easier to cultivate than independent judgement and open-ended critical thinking. These findings suggest that teaching reform alone is not enough. Broader change is needed in assessment practice, classroom power relations, and assumptions about learning success. This chapter therefore provides an important foundation for the recommendations in the next chapter. It highlights the need to embed reflective reasoning explicitly in teaching and assessment, and to value learning processes alongside final outcomes.

Chapter 7: Conclusions and Recommendations

This conclusion chapter aims to demonstrate the contributions of this research, synthesising key findings and discussions. Whilst the preceding chapters focused on detailed analyses of teacher and student interview observations, this section combines these threads to offer fresh insights into the understanding, application, and teaching of critical thinking within China's higher education in visual arts. The conclusions drawn extend beyond the immediate context of artistic creation, criticism, and pedagogy, reaching into the broader discourse on cultivating higher-order thinking within Chinese higher education.

This chapter revisits the three guiding research questions and synthesises the resulting implications. These form the basis for recommendations addressed to educators and institutions seeking to better integrate critical thinking into visual arts curricula. Concurrently, this chapter provides space for reflection on the methodological choices made within this research, acknowledging both their strengths and limitations. It considers the broader implications of the study and identifies areas for further investigation that could build upon the foundations laid here. Finally, I reflected upon my personal and professional learning during the project and how this process transformed my understanding as a researcher and teacher.

7.1 Summary of Key Findings to Address the Research Questions

The primary research findings are summarised based on Chapters 4 to 6. Revisiting these chapters is essential, as they address the three research questions while highlighting the interconnectedness of these questions. Additionally, I will use paragraph markers to distinguish the summaries of different sections.

Table 7.1 Key Findings of Question1

Key Findings of Question1: Findings: Summary of Students' and Teachers' Conceptions of Critical Thinking		
	Students	Teachers
Developmental Trajectory	From judgement/evaluation → reflection, problem identification, perspective-taking	More comprehensive due to professional and life experience
Framework & Orientation	Linked to fairness, multiple viewpoints, deeper analysis (Paul & Elder)	CT tied to values, ethics, culture, and social critique
Contextual Influences	Shaped by family authority, hierarchy, social media, intercultural dialogue, and classroom practices	Embedded in social relationships and cultural norms,
Differences & Complementarity	Grounded in everyday contexts (authority, peers, media)	Broader, socially oriented perspectives

7.2 Research question 1

How are the perceptions of critical thinking among Chinese higher visual arts students and teachers shaped by their educational experiences? (See Table 7.1 for a summary)

7.2.1 Students' Understanding of Critical Thinking and Perceived Means of Acquisition

Students' understanding of critical thinking followed a developmental trajectory: from a narrow focus on judgement and evaluation to a broader grasp of reflection, problem identification, and perspective-taking. This shift from limited evaluative thinking towards more reflective and context-sensitive reasoning mirrored the developmental stages described in King and Kitchener's (2004) reflective judgement model. At the same time, students' emphasis on fairness, consideration of viewpoints, and deeper analysis resonated with Paul and Elder's (2014) intellectual standards, indicating that their evolving conceptions were consistent with established critical thinking frameworks. This suggested that participation in dialogue and educational practice fostered deeper levels of understanding.

It was evident that students' perspectives were shaped by the complex interplay of cultural, social, and educational factors. Familial authority structures and hierarchical norms often restricted independent judgement, showing that students' capacity for critical thinking was closely tied to broader traditions of respect and obedience. Meanwhile, the social media environment exposed students both to misinformation and to diverse viewpoints, creating a paradoxical space that simultaneously challenged and sharpened critical thinking. Interpersonal and intercultural communication proved particularly significant, as dialogue across different backgrounds prompted students to reconsider assumptions and adopt more reflective positions. In the classroom, teaching practices such as debate or exposure to multiple perspectives were regarded as beneficial, though inconsistent implementation limited their impact.

These findings suggested that the development of critical thinking in China could not be understood solely from an individualistic or cognitive perspective; it was embedded within wider cultural patterns, including hierarchy, conformity, and collective identity. They also demonstrated how established critical thinking frameworks, developed largely in Western contexts, could be reinterpreted through the lens of cultural traditions and social interaction. Finally, they highlighted the practical challenge faced by higher art education: cultivating critical thinking requires not only classroom strategies but also conscious negotiation with broader social and familial expectations.

7.2.2 Teachers' Understanding of Critical Thinking and Perceived Means of Acquisition

By tracing how teachers employed purpose, assumptions, and information to construct judgements through Paul and Elder's (2014) framework, this study revealed their multiple identities as educators, family members, and intermediaries within the socio-cultural context. It highlighted how critical thinking was understood in relation to values, social critique, and everyday decision-making. Teachers indicated that, within the context of Chinese higher art education, critical thinking was conceived as a practice rooted in social relationships and cultural norms rather than as a purely technical or cognitive skill, thereby reflecting more strongly the elements of breadth and fairness Paul and Elder's (2014). This carried important pedagogical implications: it suggested that cultivating critical thinking required not only training in logical reasoning but also the creation of classroom environments where students could examine values, question social assumptions, and connect their artistic practice with broader cultural realities.

At the same time, differences emerged between teachers and students in their understanding of critical thinking. One reason for this divergence was that teachers, with richer professional and life experience, tended to adopt a more comprehensive and socially grounded perspective, linking critical thinking to ethical, cultural, and power-related issues. By contrast, students encountered critical thinking more directly in their everyday negotiations with family expectations, digital environments, and

classroom dynamics, which naturally narrowed their perspectives to matters of authority, information, and peer interaction. Although such divergence might have appeared to be a challenge, it also carried constructive potential. The coexistence of teachers' and students' perspectives provided a complementary form: teachers contributed broader, socially oriented frameworks that situated critical thinking within questions of values, morality, and culture, while students offered grounded insights drawn from their lived experiences of authority, digital media, and peer relationships. These differences enabled a two-way learning process, encouraging students to expand their vision beyond immediate experience and reminding teachers to connect abstract ideals with the concrete contexts in which students thought and created.

7.3 Research question 2

How do students and teachers perceive the role of critical thinking in art? (See Table 7.2 for a summary)

7.3.1 Teachers' Perspectives on Critical Thinking in Artistic Practice and Art Criticism

Overall, teachers conceptualised critical thinking in art as a bridge between personal experience, social awareness, and disciplinary knowledge. In artistic practice, they emphasised that critical thinking enabled students to move beyond the execution of technical skills, to use life experiences as conceptual resources, and to reframe problems in ways that promoted originality. In art criticism, they positioned it as a reflective and dialectical process, encouraging students to develop aesthetic standards and values through analysis, comparison, and self-positioning rather than by relying on subjective preference. Both graphic design and fine art teachers stressed that critical thinking enhanced judgement by linking information, form, and meaning, combining rational evaluation with cultural and ethical reflection.

Table 7.2 Key Findings of Question 2

Key Findings of Question 2: Critical Thinking in Artistic Practice and Criticism		
	Students	Teachers
Artistic Practice	Transform experience into themes; balance intuition & reflection; fine art → expression, symbolism; design → problem-solving, communication	Move beyond technical skill; link personal experience, society & discipline; fine art → symbolism; design → communication, problem-solving
Art Criticism	From description → interpretation; connect intention, form, meaning; criticism feeds back into practice	Reflective, dialectical process; develop standards & values; combine rational, cultural & ethical judgement
Disciplinary Sensitivity	CT shaped by field: fine art (emotion, metaphor), design (analysis, audience focus)	CT shaped by field: fine art (expression), design (communication, practical solutions)

The significance of these views lay in how they extended critical thinking across different disciplines, a framework that was particularly important in the context of Chinese higher visual arts, where traditional pedagogy often emphasised technical mastery and respect for authority. By framing critical thinking as a practice of meaning-making, social critique, and informed evaluation, teachers suggested that art education might shift towards more dialogical and reflective models. Furthermore, differences were observed between fine art and design teachers: the former focused on symbolism and personal expression, while the latter highlighted communication and problem-solving. This underlined the need for discipline-sensitive pedagogies. Such differences were not limitations but could serve as complementary strengths, offering multiple pathways for embedding critical thinking into curricula. From the perspective

of professional learning, these differences meant that students acquired different forms of critical thinking training depending on their disciplinary pathway: fine art study more readily fostered self-reflection and social awareness, whereas design study emphasised analytical thinking and real-world problem-solving. Together, the two approaches not only broadened students' ways of thinking but also encouraged them to combine conceptual innovation with practical communication in their future artistic practice. This suggested that critical thinking in art education was not a singular goal but a flexible capacity shaped by disciplinary characteristics, providing new insights for curriculum development and interdisciplinary pedagogical reform.

7.3.2 Students' Perspectives on Critical Thinking in Artistic Practice and Art Criticism

In artistic creation, students demonstrated through their works how critical thinking supported the transformation of personal experiences into artistic themes, while also acknowledging the role of intuition and emotion. The tension between intuition and reflection indicated that students viewed artistic thinking as a dynamic process, in which emotional impulses could be deepened and reshaped through critical analysis. This understanding highlighted the need for art education to integrate reflective questioning with intuitive exploration rather than to treat them as opposing forces.

Clear differences emerged between disciplines. Fine art students tended to focus on personal identity, emotion, and symbolic meaning, with critical thinking operating through metaphor and symbolism to shape their work. Graphic design students, by contrast, emphasised problem-solving and communication with wider audiences, shaping their projects through research, iteration, and evaluation. These perspectives, which echoed those of their teachers, confirmed once again how disciplinary backgrounds influenced the ways students practised critical thinking. The implication was that critical thinking should not be regarded as a uniform skill but rather as a discipline-sensitive capacity, adaptable to the epistemological traditions of each field.

In relation to art criticism, students reported that they had moved beyond formalist description towards more interpretive approaches, employing critical thinking to connect intention, form, and meaning. Importantly, they believed this process fed back into their own artistic development, helping them to refine their personal style and thematic depth. This contrasted sharply with teachers' stronger conviction that style was formed primarily through practice, suggesting that students perceived criticism as an active space for learning rather than as a purely evaluative exercise. Paul and Elder's (2014) conception of critical thinking as a self-disciplined and self-improving process was particularly significant: it provided a lens through which to understand how students projected the knowledge and insights gained from criticism into their creative practice, while also illustrating how Paul and Elder's theoretical framework was locally reshaped within the context of art training and its wider social setting.

7.4 Research question 3

How do students and teachers perceive the role of critical thinking in the teaching methodologies of Chinese higher art education. (See table 7.3 for a summary)

7.4.1 The Challenge of Traditional Chinese Art Education to Critical Thinking

The traditional teaching structures of Chinese higher art education constituted significant obstacles to the cultivation of critical thinking. The long-standing YIKAO system reinforced a technique-centred mindset, whereby students often equated artistic achievement with technical proficiency rather than viewing it as a process of critical exploration. The underlying reason lay in China's education system, which for decades had prioritised quantifiable outcomes and visible skills. This exam-driven orientation made it difficult for critical and creative thinking to receive the same level of emphasis as technical attainment.

Table 7.3 Key Findings of Question 3

Key Findings of Question 3: Challenges, Emerging Methods, and Future Directions in Fostering Critical Thinking	
Challenges	Why it Matters for CT Exams and teacher-centred authority reward safe answers, which discourages risk-taking, questioning, and independent judgement.
Emerging Methods	Flipped classroom opens space for dialogue, but fear of mistakes and hierarchy create anxiety, limiting deep reflection.
Future Directions	Reforming assessment and fostering dialogue are crucial because they give students incentives to question, reflect, and think independently.

Classroom observations revealed the limitations of teacher-centred, lecture-based modes of instruction, in which students rarely engaged in discussion or debate. This reinforced the implicit message that the teacher’s explanation represented authority. Behind this practice lay deeply rooted cultural traditions of respecting teachers and hierarchical order. Students were accustomed to receiving knowledge rather than challenging or questioning authority, and this cultural logic was perpetuated in art classrooms, making critical questioning and dialogue unlikely to occur naturally. However, these traditional models were not entirely negative. Some students reported that they felt greater security and a stronger sense of direction in teacher-centred classrooms, particularly during the stage of technical training, where clear standards and systematic explanations helped them to acquire core skills quickly. This indicated that the strength of traditional pedagogy lay in providing a stable structure and clear learning objectives, though its weakness was the lack of space for students to develop independent judgement, critical inquiry, and creative thinking.

The assessment system further exacerbated this tendency. Grading criteria were strictly oriented towards measurable skills and prescribed themes, which restricted opportunities for originality and divergent thinking. This was not only the result of institutional arrangements but also reflected long-standing values in Chinese education, which placed greater weight on outcomes than on processes, and prioritised the avoidance of risk to maintain harmony. In other words, students were incentivised to pursue safe answers rather than to attempt critical exploration.

Overall, these institutional and cultural factors together shaped a learning ecology that produced technically competent but critically limited students. Such an environment constrained their development in questioning, argumentation, multi-perspective reasoning, independent judgement, and self-reflection. Put differently, while students were able to meet technical standards, they struggled to achieve the requirements of critical thinking as a higher-order capacity, a gap that posed profound challenges for their future academic growth and artistic innovation.

7.4.2 Existing teaching methods

The results indicated that some teachers attempted to use flipped classroom models to compensate for the limitations of teacher-centred instruction. By shifting content delivery outside the classroom and using class time for interaction and problem-solving, these approaches encouraged students to take greater responsibility for their own learning. Graphic design lecturers emphasised the role of preparatory research in developing skills of information gathering, filtering, and synthesis. The significance of these practices lay in their redefinition of the classroom as a space for dialogue rather than one-way transmission. By stressing information literacy, problem identification, and collaborative inquiry, flipped classrooms directly engaged with the core cognitive processes of critical thinking, interpretation, analysis, and reasoning. Importantly, they also repositioned teachers from authority figures to facilitators, signalling a cultural shift away from traditional hierarchies. This suggested a potential pathway for embedding critical thinking more systematically into Chinese art education, where students had long been socialised into passive reception. The

prominence of the flipped classroom in teachers' accounts also reflected its relatively high cultural compatibility with Chinese higher education. Unlike project-based or problem-based learning, which required more thorough reforms of curricula and assessment, the flipped classroom model could be incorporated into existing structures without abandoning established hierarchies. Teachers still retained control over content selection and assessment, while providing students with more space for autonomy and dialogue.

However, the findings also highlighted the limitations of this model. Students reported anxiety when asked to present work or lead discussions, suggesting that emotional barriers could undermine the benefits of active learning. In China, where public performance was often associated with fear of mistakes, this anxiety was particularly pronounced. Without scaffolding and supportive structures, independent learning tasks risked reinforcing superficial compliance rather than promoting deep reflection. Thus, the future of the flipped classroom depended not only on the model itself but also on how it was adapted to local cultural and institutional conditions. These emerging approaches demonstrated that critical thinking could be fostered when students were positioned as active participants in knowledge construction. Yet their success depended on balancing autonomy with emotional and pedagogical support. For Chinese higher visual arts education, adjustments also needed to be made in ways that aligned with cultural expectations of hierarchy and harmonious coexistence.

7.4.3 Teaching Dilemma and Future Direction

Overall, the challenges identified in this study show that the barriers to critical thinking in Chinese higher art education lie less in classroom technique than in the wider systems of assessment, curriculum, and educational culture. Innovative pedagogies such as the flipped classroom can create openings for dialogue and autonomy, but their impact is constrained when institutional structures continue to privilege conformity, technical precision, and exam-driven outcomes. These findings make clear that cultivating critical thinking requires systemic alignment rather than isolated experiments.

Three directions appear most urgent: rethinking assessment to value reflection as well as results, creating classroom environments that encourage open dialogue and balanced teacher–student relations, and embedding critical thinking objectives into curricula alongside technical training. Taken together, these shifts would move critical thinking from the margins to the mainstream of visual art education. More importantly, they signal that sustainable progress depends on integrating pedagogy, assessment, and institutional culture, so that questioning, reflection, and originality are not only permitted but actively rewarded.

In the long term, these directions point towards more than pedagogical adjustment: they signal a gradual cultural shift in visual art education in Chinese higher education. By reforming assessment, rebalancing classroom relations, and aligning curricula with the goal of fostering reflection, institutions can begin to transform critical thinking from a peripheral concern into a central pillar of artistic training. The future lies in producing graduates who are not only technically proficient but also capable of independent judgement, creative risk-taking, and informed social engagement. Such changes would align Chinese art education more closely with global educational aspirations while remaining sensitive to local cultural realities.

7.5 Contribution to the Body of Knowledge

7.5.1 Theoretical contributions

This study extends critical thinking theory by re-thinking where critical judgement is most likely to appear in Chinese higher education art learning. Building on the cognitive foundations proposed by Richard Paul and Linda Elder (2014), it argues that critical thinking should not be reduced to public debate or open verbal challenge in class. In many studio settings, what changes is not whether students think critically, but when and how they show it. Institutional roles, assessment pressures, and relationship norms can channel critique into quieter and more situational forms, such as careful questioning, selective agreement followed by revision, or later discussion in

less exposed settings. This matters because it separates the presence of reasoning from its public visibility. It suggests that a lack of outspoken challenge should not be read as a lack of judgement. Critical thinking can still be present in how students justify choices, weigh alternatives, and decide what to change, even when this reasoning is expressed indirectly.

The study also broadens the meaning of critical thinking in art learning by treating emotion, lived experience, and intuition as part of how enquiry begins, rather than as something outside reason. Instead of positioning affect as the opposite of rational judgement, the revised account views it as a starting point that needs to be worked on through reflection, clarification, and justification. In practice, this means tracing how an initial feeling or intuition is turned into a defensible concept and a communicable form through reasoning about purpose, assumptions, evidence, and implications. In this sense, critical thinking serves three connected aims that are central to visual art education. It deepens concepts by turning experience into clearer questions and stronger themes. It strengthens meaning expression by linking intention to concrete visual decisions. It also makes socio-cultural reflection part of judgement by requiring attention to perspective, representation, and consequence. Taken together, these claims position critical thinking as something that helps generate and refine meaning through making and critique, not only as a tool for evaluating work after it is produced.

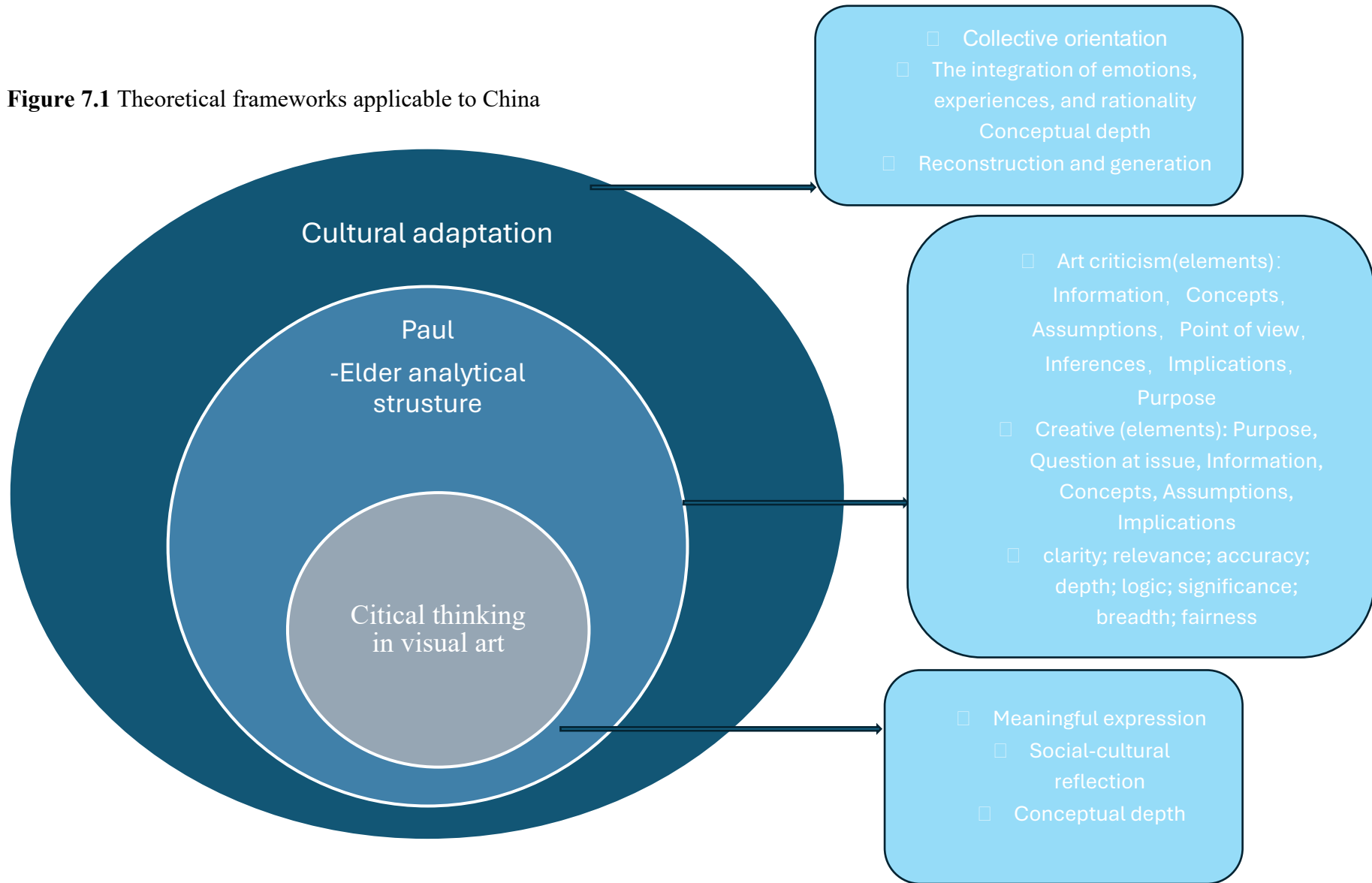
On this basis, this study proposes a revised model of critical thinking for visual art education in Chinese higher education (see Figure 7.1). The model retains the cognitive foundations of Paul and Elder's framework while incorporating three culturally responsive dimensions:

- Collective orientation: critical judgement enacted through socially negotiated critique shaped by harmony, relational sensitivity, and cultural responsibility.
- The integration of emotions, experiences, and rationality: critical thinking as an iterative dialogue between intuition, affective experience, and rational evaluation.

- Reconstruction and generation: critical thinking as a force for transforming symbolic systems and producing new meanings within artistic practice.

Together, these findings demonstrate that critical thinking in this context is not only a cognitive skill but a socially mediated, emotionally embedded, and generative practice. The revised model therefore offers a culturally grounded yet globally relevant contribution, extending existing critical thinking theory into the domain of visual arts and providing a framework for understanding how reasoning, creativity, and cultural values intersect in higher education.

Figure 7.1 Theoretical frameworks applicable to China



Note. The model retains the cognitive foundations of Paul and Elder’s framework while incorporating three additional dimensions

7.5.2 Practical contributions

The study provides concrete insights for teaching and curriculum design in Chinese higher art institutions by revealing both shared understandings and notable differences between teachers and students, as well as between disciplines such as fine art and graphic design.

Teachers generally emphasised the conceptual stage of artistic practice, valuing the generation of themes grounded in personal experience and social relevance. Fine art teachers often encouraged deep self-reflection, linking lived experience with broader social or cultural issues, whereas graphic design teachers stressed the observation of everyday objects from multiple perspectives and the reconstruction of problems to enhance originality. Students, in contrast, tended to focus more on the practical execution of ideas. Fine art students saw critical thinking as influencing the construction of metaphors and the expressive depth of visual language, while graphic design students often described it as a problem-solving process involving research, data filtering, and iterative refinement. These differences suggest that curriculum design should not adopt a one-size-fits-all approach, but rather tailor critical thinking development strategies to the distinct cognitive and creative processes of each discipline.

Findings from the flipped classroom section illustrate how this tailoring can work in practice. Shifting part of content delivery outside class, and using class time for discussion, critique, and collaborative problem solving, encourages independent thinking and deeper engagement. For design-related subjects, pre-class research activities build information literacy and analytical skills essential for managing complex visual and textual material. In fine art contexts, pre-class exploration can be used to stimulate reflective thinking, enabling students to connect personal narratives with symbolic expression before engaging in peer dialogue.

Positioning the classroom as a problem-solving environment rather than a purely instructional space benefits both groups, though in different ways. Graphic design

students may benefit from structured tasks that guide them from information gathering to application in communicative formats, while fine art students may need more open-ended critique sessions to experiment with metaphor and symbolic forms. Teachers who encouraged students to bring unresolved questions from independent research into class discussions created valuable opportunities for inquiry-based learning allowing gaps in understanding to become the starting point for deeper analysis and collaborative exploration.

However, the study also found that emotional factors such as anxiety about public speaking can hinder the intended benefits of active learning. This is particularly relevant for students unaccustomed to publicly defending their work or challenging peer opinions, a tendency reinforced by cultural norms favouring harmony over confrontation. By integrating these differentiated strategies aligned with both teacher and student perspectives and sensitive to disciplinary practices this study offers actionable guidance for developing curricula that strengthen critical thinking while respecting the cognitive, creative, and emotional needs of diverse student groups in Chinese higher visual arts education.

7.5.3 Policy contributions

This study demonstrated that the current YIKAO placed strong emphasis on technical competence and outcome-based assessment, exerting a profound influence on students' artistic development. Both teachers and students reported that this system continued to shape undergraduate learning orientations, as technical and results-driven standards accustomed students to pursuing the "correct answer," thereby reducing their motivation to pose open-ended questions or challenge existing assumptions. In addition, the repeated stress on quantifiable criteria led students to equate success with conformity to grading standards rather than with the development of independent judgement or the capacity for multi-perspective interpretation. Furthermore, the high-stakes nature of assessment encouraged students to avoid uncertainty and experimental choices, constraining the risk-taking and depth of reasoning required for critical

thinking. Final-year students still tended to emphasise technical replication and safe consistency rather than independent judgement and conceptual risk-taking.

The findings further revealed a misalignment between the aspirations of higher visual arts education to foster critical thinking and the entrance examination's focus on short-term technical performance. This indicated how the assessment framework functioned as a powerful policy instrument, directing attention towards measurable outcomes and, in doing so, constraining the reflective and exploratory capacities that higher art education sought to develop.

7.6 Recommendations

Table 7.4 Recommended Teaching Practices for Enhancing Critical Thinking

Subject of the recommendation	Practice Focus	Recommendations
Teaching practice (Fine Arts)	<ul style="list-style-type: none"> <input type="checkbox"/> From personal emotions to cultural/social context <input type="checkbox"/> Using metaphors to express abstract concepts <input type="checkbox"/> Iterative reflection through making–critique–revision 	<ul style="list-style-type: none"> <input type="checkbox"/> Embed Paul–Elder in critique prompts and marking. Ask for purpose/problem, assumptions, audience effects, and whose perspectives are included/excluded. Cultural clarity & resonance <input type="checkbox"/> Use standards clarity, accuracy, relevance to test symbols: how/why the symbol communicates, what evidence supports it, possible unintended meanings; compare alternatives in peer critique. <input type="checkbox"/> Build routine cycles with journals/critique routines; use guiding questions (significance, breadth/fairness, assumptions, implications) to review work-in-progress.
Teaching practice (graphic design)	<ul style="list-style-type: none"> <input type="checkbox"/> problem-solving <input type="checkbox"/> Visual research as evidence <input type="checkbox"/> Process-based assessment of reasoning 	<ul style="list-style-type: none"> <input type="checkbox"/> Use Paul–Elder (Elements, Standards) to structure briefs, critique, and marking aim/problem, audience/stakeholders, criteria; clarity/logic/fairness. <input type="checkbox"/> Require source comparison, bias/reliability checks conflicting views; ask why sources are credible and whose interests they serve. <input type="checkbox"/> Add staged reviews, design rationales, journals, portfolio decision trails; assess assumptions, implications, breadth/fairness.

Table 7.5 Recommendations for Enhancing Critical Thinking among Fine Arts and Graphic Design Teacher

Subject of the recommendation	Practice Focus	Recommendations
Teacher (Fine Arts and Graphic Design)	<ul style="list-style-type: none"> <input type="checkbox"/> Shared language for judging thinking <input type="checkbox"/> Critique facilitation as a professional skill <input type="checkbox"/> Assessment literacy via moderation and exemplars 	<ul style="list-style-type: none"> <input type="checkbox"/> Adopt Paul–Elder as common vocabulary (Elements, Standards) in planning and assessment. <input type="checkbox"/> Train teachers (workshops/peer coaching) to move talk from description to interpretation/evaluation. <input type="checkbox"/> Routine moderation; co-develop rubrics and annotated exemplars. Use Paul–Elder standards to calibrate marking.

Table 7.6 Recommended policy for Enhancing Critical Thinking

Subject of the recommendation	Practice Focus	Recommendations
YIKAO	<ul style="list-style-type: none"> <input type="checkbox"/> Two-stage selection process <input type="checkbox"/> Portfolio content requirements 	<ul style="list-style-type: none"> <input type="checkbox"/> Stage 1: exam score screening; Stage 2: portfolio and process evidence review. <input type="checkbox"/> Include finished works plus process records: purpose, problem/question, information sources, key decision reasons, revision traces.

7.6.1 Recommend for Pedagogical Practice

Fine Art Education

Research shows that both fine art students and teachers treat lived experience and emotion as important sources for concept generation. This was also confirmed through classroom observation. Tasks and critique sessions often begin from an emotional starting point, and then guide students to go deeper by analysing meaning, assumptions, and alternative perspectives. I therefore suggest that this process should be strengthened in teaching. Paul and Elder's (2006,2014) framework offer a practical structure for instruction and assessment. It helps to operationalise critical enquiry through the intellectual standards, especially significance, breadth, and fairness, and through the Elements of Thought. For example, critique prompts and marking criteria can ask students to clarify the purpose of the work and the problem it explores, identify assumptions embedded in imagery and composition, and consider the effects of the work on different audiences. Students can be asked directly which perspectives are represented or marginalised, how different viewers might interpret the same visual choices, and which cultural assumptions shape their creative intentions. In this way, emotional expression remains a generative resource, while conceptual depth and socio-cultural reflection become teachable and assessable.

My study also suggests that symbolic meaning is often purposeful and carefully considered, rather than purely intuitive. This recommendation is based on my findings that students use metaphor to test meaning. For instance, one student used an old television and a computer in a work about Alzheimer's disease to suggest the mind's gradual loss of memory. The teaching aim, therefore, is to make this reasoning more explicit and easier to test rigorously. Studio critiques and formative feedback can be designed around standards of clarity, accuracy, and relevance. Students can be asked to explain how and why particular symbols communicate the intended meaning, what evidence in the work supports that interpretation, and what unintended meanings might be triggered in a specific cultural context. Structured peer dialogue can further strengthen breadth and fairness by comparing alternative symbolic strategies and by

checking whether a metaphor risks repeating stereotypes or simplifying complex experiences.

In addition, fine art teaching should intentionally make iterative reflection across making, critique, and revision a regular expectation of learning. This recommendation draws on a broader finding of the study. Students' critical development is strengthened when they revisit and refine ideas through dialogue and feedback, rather than treating an early intuitive solution as final. Importantly, the aim is not to treat intuition as a weakness, but to position it as an initial insight that needs to be developed through reflective judgement. Teaching activities can therefore require students to use Paul and Elder's (2006,2014) guiding questions to evaluate work in progress in terms of conceptual coherence, interpretive depth, and ethical implications. What is the work trying to do? Why does it matter (significance)? What other viewpoints and contexts should be considered (breadth and fairness)? What assumptions are being taken for granted, and what implications follow from them? Through guided reflective journals, critique routines, and revision tasks, students learn to turn intuitive insights into outcomes shaped by critical thinking. In this model, Paul and Elder's framework does not sit above practice as an external theory. Instead, it informs the design logic of tasks, critique prompts, and assessment criteria. It creates a curriculum structure in which personal experience generates ideas, and critical thinking systematically deepens and tests those ideas, while also giving them ethical meaning.

Graphic Design

The findings suggest that teachers and students often understand graphic design mainly to solve communication problems, especially those linked to social issues. Teaching in graphic design education should therefore define design work as a form of socially situated problem-solving. Design tasks should require students to state their reasoning clearly. For example, projects can ask students to set clear aims, define the communication problem they are responding to, identify audiences and stakeholders, and propose explicit criteria for judging whether information and solutions are adequate. In practice, Paul and Elder's framework can support this shift by turning

“critical thinking” into assessable elements of design reasoning (Paul & Elder, 2006). The Elements of Thought map naturally onto a design brief, including purpose, question at issue, information, concepts, assumptions, implications, and point of view. The Intellectual Standards provide shared criteria for critique and marking, including clarity, accuracy, relevance, depth, breadth, logic, significance, and fairness (Paul & Elder, 2006). In this model, the brief is not only a task description. It also works as a reasoning framework.

Based on my findings, problem-solving in this context often depends on gathering references and building an understanding of context. Students should therefore be guided to treat visual research as an evidence practice. In the early data-gathering stage of a flipped classroom, students can be required to compare multiple sources, examine the reliability and bias of references, including media images and online visual trends, and weigh conflicting viewpoints before settling on a design direction. Instead of asking only what sources students used, critique prompts can focus on why those sources are credible, whose interests they may serve, and what alternative readings they might invite. This links directly to the standards of accuracy, relevance, breadth, and fairness (Paul & Elder, 2006). When students design work about contested social issues, they need to justify their position, recognise limits in evidence, and avoid narrow or one-sided framing.

In the same way, assessment in graphic design should move beyond over-emphasis on the outcome and include process-focused elements that document students’ reasoning over time. This recommendation draws on a broader finding in my study. In this setting, design ability is often judged through problem-solving and justification, with room for personalised themes, not only visual effect. Practical mechanisms include staged project reviews, written or spoken design rationales, reflective journals, and portfolio documentation that records key decisions and revisions. These approaches align with the tradition of reflective practice associated with Donald Schön (Schön, 1983) and with Stephen Brookfield’s discussion of critical pedagogy (Brookfield, 2012). They also remain consistent with Paul and Elder’s framework in practical terms (Paul & Elder, 2006). Assessment can include whether students identify assumptions, consider

implications, and show breadth and fairness when representing people, values, and social meaning.

7.6.2 Recommendations for Teachers

Although fine art and graphic design have different emphases, with fine art focusing more on personal expression and graphic design focusing more on problem-solving in social contexts, this study shows that teachers in both disciplines face a shared professional challenge. They need to make conceptual judgement and critical thinking visible within skills-led curricula. The recommendations below therefore focus on teacher development and capacity building, not only classroom strategy.

First, it is important to establish a clear and consistent way to discuss and assess students' thinking in studio work. Findings in Chapter 6 show that YIKAO traditions and outcome-led assessment often prioritise technical proficiency over reasoning quality. Teacher development should therefore prioritise a common evaluative vocabulary that allows teachers to describe and assess reasoning, not only technique. A practical approach is to use Paul and Elder's framework as a shared basis for planning, feedback, and assessment (Paul & Elder, 2006). Teachers can use the Elements of Thought to make expectations explicit through structured studio questions, such as: What is the purpose of this work? What problem are you trying to address? What information or visual evidence supports your decision? What assumptions are you making about the viewer or context? What implications might this choice have? Peer and tutor feedback can then follow intellectual standards such as clarity, relevance, depth, and fairness. In this way, broad aims such as originality, conceptual depth, and social relevance can be translated into stable prompts and feedback language across modules.

Second, teachers should be supported to treat the facilitation of critical thinking as a professional skill. This study found that many participants were more confident in collective discussion than in direct interpersonal confrontation. Teacher development should therefore include the design and facilitation of structured group critique, where

challenge is organised through shared enquiry rather than personal opposition. Workshops and peer coaching can focus on how teachers move discussion from description to interpretation and evaluation through well-designed questions, how they manage disagreement without defaulting to authority-based correct answers, and how they anchor critique in evidence from the work itself. Paul and Elder's standards can also be used as norms for facilitation, helping teachers guide students to express ideas more clearly, strengthen relevance, widen perspective, and deepen evaluation when discussion becomes superficial (Paul & Elder, 2006).

Third, assessment can be strengthened through moderation and exemplars. The findings show that marking strongly shapes what students attend to. For this reason, teacher development should make assessment moderation a routine departmental practice. Staff can work together to establish standards and annotated exemplars that make reasoning visible, for example how depth appears in a fine art concept statement, or how logical coherence appears in a graphic design rationale addressing a social communication problem. Moderation meetings can use Paul and Elder's standards to calibrate staff judgement, reducing the risk that quality is defined mainly by technical detail or personal taste (Paul & Elder, 2006). This is particularly important when students are highly sensitive to assessment signals and may treat critical engagement as secondary.

7.6.3 Recommendations for policy

From a policy perspective, this study suggests that the exam-driven art entrance system has, to some extent, carried into the university stage. It reinforces students' priority on technical proficiency and outcome-oriented performance, which narrows the space for conceptual exploration, critical judgement, and independent expression. At the same time, it is important to recognise the practical context in China. Given the large population and unequal distribution of educational resources, the art entrance exam functions as a rapid selection mechanism with clear administrative logic. In the short term, it is unlikely that selection can shift fully to a Western-style portfolio-based model. A more feasible direction, therefore, is not replacement, but reform within the

existing exam structure. This would involve adding a scalable and standardised portfolio component as a supplementary form of assessment, so that abilities related to thinking and meaning making are not obscured by technical testing alone.

More specifically, the entrance process could introduce portfolio and process evidence as a second assessment dimension. Candidates would first be screened through the standardised exam score. Those who pass the threshold would then enter a standardised portfolio review. The portfolio would not only present finished works, but also include records of the making process and brief written explanations. Students would be asked to clarify the purpose of the work, the problem or question they are addressing, the sources of information they drew on, and the reasons for key choices. They would also show revision traces, so that reviewers can identify genuine concept development and judgement over time. To balance fairness with feasibility, a national submission platform and a common scoring rubric could be used, supported by assessor training and cross-region moderation. The system could be introduced through pilot schemes and scaled gradually. Portfolio criteria could place stronger emphasis on significance and social relevance, depth of thinking, and awareness of multiple perspectives, this would create institutional space for critical thinking development at the university stage.

7.7 Limitations of the study and recommendations for future research

As a qualitative inquiry, this study has the strength of capturing participants' lived experiences, meanings, and contexts in depth. Nevertheless, several limitations must be acknowledged, which also suggest directions for future research. The first limitation concerns the qualitative methodology itself. The sample size was relatively small, consisting of interviews with 12 students and six teachers, primarily from a single institution's art and design programmes. While sufficient for in-depth qualitative analysis, this restricts the generalisability of the findings to other regions, institutions, or disciplines across China (Creswell & Creswell, 2018; Kothari, 2004). Given China's cultural diversity and vast geographical scale, educational practices may vary

significantly. Future research could therefore undertake cross-institutional or cross-regional comparisons to capture these variations more comprehensively.

Language barriers and issues of translation may also have limited the depth of discussion, particularly when subtle concepts in art and culture were difficult to convey accurately. Cultural differences in communication styles might have further influenced responses: for example, students from high-context cultures often relied on implicit expression, while others valued explicit argumentation, complicating dialogue and mutual understanding (Hall, 1976). Moreover, differences in educational traditions could have shaped expectations of participation; some students were less accustomed to open debate or critical questioning, restricting their engagement in multi-perspective reasoning. Future studies should therefore explore how translation, cultural discourse styles, and pedagogical traditions shape the enactment of critical thinking in art education. Methodologically, the reliance on semi-structured interviews introduced potential influences on the data. Responses may have been shaped by social desirability bias, and the researcher's presence could have affected the naturalness of participants' reactions. Complementary methods, such as longitudinal classroom ethnographies, critical incident analysis, or triangulation with student artworks would mitigate these challenges and generate richer data.

The theoretical framework also presents limitations. This study adopted Paul and Elder's (2006) critical thinking model, developed in a Western context. While it provided valuable structure, its cultural transferability to China remains open to question. The framework reflects a Western, individualistic model of rationality, whereas Chinese traditions emphasise collective wisdom, contextual knowledge, and master–apprentice learning. Critical thinking in this context may manifest less as an explicitly measurable skill and more as an implicit, practice-based capacity. Future research should therefore continue to adapt and refine frameworks of critical thinking to better reflect Chinese cultural and pedagogical traditions. For example, subsequent studies might investigate how values such as hierarchy, harmony, and collective responsibility reshape key elements of the model, and whether dimensions such as fairness and breadth are amplified through social negotiation rather than individual

reasoning. Researchers could also expand existing frameworks by integrating art-specific dimensions such as artistic intuition and reflective practice, capturing embodied and experiential forms of critical engagement.

Practical constraints further shaped the study. The doctoral project was conducted within a limited timeframe, precluding longitudinal investigation of students' critical thinking development. Additionally, the COVID-19 pandemic directly affected data collection. Most interviews were conducted online or by telephone, limiting access to non-verbal cues such as body language and facial expression. Online settings also introduced distractions and connectivity issues that may have reduced openness. Moreover, pandemic-era teaching practices, particularly the widespread move to online art criticism classes altered classroom interaction and peer collaboration, both of which are vital for cultivating critical thinking. As such, findings may reflect the specific conditions of the pandemic rather than conventional teaching modes. Future longitudinal and post-pandemic studies are therefore essential to assess the longer-term trajectories of critical thinking development under more typical circumstances. Finally, the interdisciplinary scope of critical thinking created an analytical challenge. This research aimed for a holistic understanding, spanning reflective engagement in art creation and reasoning in art criticism, rather than pursuing any single dimension in exhaustive depth. Future studies could probe individual dimensions more intensively, while still recognising the integrated nature of critical thinking across artistic practice and criticism. By addressing these methodological, theoretical, and practical limitations, future research can move beyond testing the transferability of Western frameworks towards constructing a locally grounded yet globally relevant model of critical thinking in visual art education, which reflects Chinese traditions and informs international debates.

7.8 Reflections as a Researcher and Educator

During the process of this research, I came to appreciate both the power and the challenges of qualitative inquiry. At first, I often felt overwhelmed by the vast amount of unstructured interview data. I gradually learnt how to engage patiently and

systematically in coding and thematic analysis, discerning meaningful patterns and insights from what initially appeared to be fragmented conversations. This process taught me that genuine insight does not arise from simple enumeration, but from a careful sensitivity to nuance and a commitment to deep interpretation. At the same time, I recognised the central role and responsibility of the researcher throughout the process. Every decision I made from the design of interview questions to the selection of theoretical frameworks shaped the direction and outcomes of the study. This heightened my awareness of the importance of academic rigour, ethical responsibility, and reflexivity.

My research focused on the cultivation of critical thinking within art education, and this profoundly reshaped my view of my own teaching practice. Through interviews, I became acutely aware of the current educational challenges in China and realised that true educational success is not measured solely by students' ability to produce technically accomplished works, but rather by their capacity to reflect, question, and think independently. I came to understand that fostering critical thinking in art education is not an additional task but it's very essence. It requires teachers to create classroom environments that are safe and conducive to dialogue and questioning, rather than relying on one-directional transmission of knowledge. This project has strengthened my conviction that as a teacher I should move from the role of knowledge provider towards that of facilitator of critical thinking.

At the same time, my position as both an artist and an art educator has deeply influenced how I interpret and intend to use these findings. Having been trained in the same examination-driven system that my participants experienced; I understand the pressures that prioritise technical replication over independent expression. As an artist, I have also recognised that my own creativity grows when I am willing to question assumptions, experiment with materials, and embrace uncertainty. These insights confirm for me that critical thinking is not separate from artistic practice but interwoven into its core. As an educator, I therefore plan to integrate reflective journals, mid-project critiques, and dialogic teaching methods into my own courses, enabling students to treat artmaking as both a technical and a critical process.

This research journey has fundamentally transformed my perspective. I no longer view education as a fixed or universally applicable paradigm, but as a dynamic and culturally embedded practice. Although I had previously encountered diverse cultural perspectives during my postgraduate studies, it was through this project that I began to reflect more deeply on the adaptability and limitations of global theories, such as Paul and Elder's (2006) framework, within local contexts. I came to recognise that no single theory is universally sufficient. This growing sensitivity to cross-cultural difference and contextual nuance has enabled me to become a more careful and humbler researcher and educator. It has also reaffirmed my dual role as both an artist and a teacher: to nurture students' technical growth while equally encouraging their reflective and critical capacities. I believe that such ongoing reflexivity will continue to guide both my academic work and my teaching practice in the years ahead.

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Appendices

Appendix 1: Participant information sheet Student

学生的参与者信息表

Participant Information Sheet for Student

研究的题目: 批判性思维对中国视觉艺术教育的价值和作用探究

Title of the study: An investigation into the value and role of critical thinking for visual arts education in China

简介:

Introduction:

我是斯特拉斯克莱德大学的一名研究生，我的研究涉及教学实践和学生表现，重点是批判性思维对视觉艺术的作用和价值。我的联系方式在本参与者信息表的末尾给出。

I am a postgraduate student at the University of Strathclyde and my research involves teaching practice and student performance, with a focus on the role and value of critical thinking for the visual arts. My contact details are given at the end of this Participant Information Sheet.

这项调查的目的是什么？

What is the purpose of this investigation?

本研究通过对 HUEL 教师和学生的研究，探讨批判性思维如何体现在中国普通高等教育的视觉艺术教学法中。它试图了解视觉艺术教师和学生对高等教育中批判性思维的教学观点和学习经验。目的是考虑中国高等视觉艺术教育的课程改革，并为如何提高批判性思维能力以改善学生的艺术创造力和自我表达提供一个经验框架。

This study examines how critical thinking is reflected in the pedagogy of visual arts in general higher education in China through a study of HUEL teachers and students. It seeks to understand the pedagogical perspectives and learning experiences of visual arts teachers and students about critical thinking in higher education. The aim is to consider curriculum reform in higher visual arts education in China and to provide an empirical framework for how critical thinking skills can be enhanced to improve students' artistic creativity and self-expression.

我将与视觉艺术相关的学生和教师进行个人访谈，了解与视觉艺术相关的批判性思维经验，并观察视觉传播艺术相关的课程，了解批判性思维对视觉艺术教学法的作用和价值。这些课程观察和采访将被记录下来。

I will conduct personal interviews with visual arts related students and teachers to learn about critical thinking experiences related to visual arts and observe visual communication arts related classes to learn more about the role and value of critical thinking for visual arts pedagogy. These sessions and interviews will be recorded.

是必须参加的吗？

Do you have to take part?

该研究是自愿的，不是必须的。拒绝参加或撤回参加不会影响你作为学生的待遇的任何其他方面，或以任何其他方式。

You do not have to participate either in the observation or in the interview and refusing to participate or withdrawing participation will not affect any other aspects of the way you are treated, as a member of students in the University, or in any other way.

你将在该项目中做什么？

What will you do in the project?

如果你愿意参与观察。除了你作为学生在做的事情之外，你不会被要求在观察课上做任何事情。

If you are willing to participate in observation. You will not be required to do anything in the observation sessions other than what you are already doing as a student.

如果你愿意接受采访，我将向你询问有关你在视觉艺术学习中的批判性思维的经验，特别是在艺术创作中的思考和表达能力有关的问题。面试将持续 45 至 60 分钟。

If you are willing to be interviewed, I will ask you questions about your experiences with critical thinking in learning visual arts, particularly as it relates to your ability to think and express yourself in your art making. The interview will last 45 to 60 minutes.

你为什么被邀请参加？

Why have you been invited to take part?

这项研究旨在了解批判性思维在视觉艺术教学法中的作用，因此，收集教授这些技能的相关人员的经验和意见非常重要。

This study was designed to understand the role of critical thinking in visual arts pedagogy, so it was important to gather the experiences and opinions of staff who teach these skills.

参加研究对你来说有什么潜在风险？

What are the potential risks to you in taking part?

参与这项研究预计不会给你带来任何不利或不适。然而，有些人在讨论自己的经历或与批判性思维有关的话题时可能会感到害羞或不自在。我们想重申，在访谈过程中，你不必回答任何你不想回答的问题，而且你可以在任何时候撤回你的参与，而不需要给出理由。

Participation in the study is not expected to cause you any disadvantage or discomfort. However, some people may feel shy or uncomfortable discussing their own experiences or topics related to critical thinking. We would like to reiterate that you do not have to answer any questions you do not want to answer during the interview, and that you can withdraw your participation at any time without having to give a reason.

项目中的信息会如何处理？

What happens to the information in the project?

所有收集到的数据将被保密，并安全地存储在受密码保护的计算机上。在研究结束 5 年后，它们将被安全地销毁。

All the data collected will be kept confidential and stored securely on password protected computers. They will be securely destroyed 5 years after the study has been completed.

在出版物或任何其他关于研究结果的介绍中，不会有任何参与研究的人的身份。

None of the participants in the study will be identified in publications or any other presentations about the findings.

斯特拉斯克莱德大学已在信息专员办公室注册，该办公室执行 1998 年数据保护法。所有关于参与者的个人数据都将按照 1998 年数据保护法的规定进行处理。

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

感谢你阅读这些信息--如果你对这里所写的内容有疑问，请提出任何问题。

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

接下来会发生什么？

What happens next?

如果你同意参加这个项目，请在所附的同意书上签字，以确认你愿意参与这个过程。

If you agree to taking part in this project, please sign the attached consent form to confirm your willingness to participate in the process.

如果你不愿意参与这个项目，谢谢你的关注。研究结束后，所有参与者将通过在大学的展示获得反馈。

If you do not want to be involved in the project, thank you for your attention.

All the participants will receive feedback through presentations at the University after the study has been completed.

研究者联系方式

Researchers contact details:

姓名：何菁

专业：教育学博士研究生

电话：15838152489/+44 (0)7732152908

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职称：博士/高级教学研究员

专业：教育学

邮箱：david.roxburgh@strath.ac.uk

Appendix 2: Consent Form for student

学生同意书

Consent Form for student

研究的题目：批判性思维对中国视觉艺术教育的价值和作用探究

Title of the study: An investigation into the value and role of critical thinking for visual arts education in China

我确认我已经阅读并理解了上述项目的信息表，并且研究人员已经回答了任何令我满意的问题。

I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

- 我明白我的参与是自愿的，我可以在任何时候退出这个项目，直到项目结束，而不需要给出理由，也不需要承担任何后果。如果我行使退出的权利，并且不希望我的数据被使用，任何从我这里收集的数据都将被销毁。

I understand that my participation is voluntary and that I am free to withdraw from the project at any time, up to the point of completion, without having to give a reason and without any consequences. If I exercise my right to withdraw and I don't want my data to be used, any data which have been collected from me will be destroyed.

- 我明白，我可以在任何时候从研究中撤回任何个人数据（即能识别我个人的数据）。

I understand that I can withdraw from the study any personal data (i.e. data which identify me personally) at any time.

- 我明白，匿名数据（即不识别我个人的数据）一旦被纳入研究，就不能撤回。

I understand that anonymised data (i.e. data which do not identify me personally) cannot be withdrawn once they have been included in the study.

- 我明白，调查中记录的任何信息都将是保密的，任何能识别我身份的信息都不会被公开。

I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.

- 我同意成为项目的参与者

I consent to being a participant in the project

- 我同意作为项目的一部分被录音和/或录像。

I consent to being audio and/or video recorded as part of the project

参与者姓名 Signature of Participant:	
日期 Date:	

Appendix 3: Participant information sheet Teacher

教师的参与者信息表

Participant Information Sheet for Teacher

研究的题目: 批判性思维对中国视觉艺术教育的价值和作用探究

Title of the study: An investigation into the value and role of critical thinking for visual arts education in China

简介:

Introduction:

我是斯特拉斯克莱德大学的一名研究生，我的研究涉及教学实践和学生表现，重点是批判性思维对视觉艺术的作用和价值。我的联系方式在本参与人信息表的末尾给出。

I am a postgraduate student at the University of Strathclyde and my research involves teaching practice and student performance, with a focus on the role and value of critical thinking for the visual arts. My contact details are given at the end of this Participant Information Sheet.

这项调查的目的是什么？

What is the purpose of this investigation?

本研究通过对 HUEL 教师和学生的研究，探讨批判性思维如何体现在中国普通高等教育的视觉艺术教学法中。它试图了解视觉艺术教师和学生对高等教育中批判性思维的教学观点和学习经验。目的是考虑中国高等视觉艺术教育的课程改革，并为如何提高批判性思维能力以改善学生的艺术创造力和自我表达提供一个经验框架。

This study examines how critical thinking is reflected in the pedagogy of visual arts in general higher education in China through a study of HUEL teachers and students. It seeks to understand the pedagogical perspectives and learning experiences of visual arts teachers and students about critical thinking in higher education. The aim is to consider curriculum reform in higher visual arts education in China and to provide an

empirical framework for how critical thinking skills can be enhanced to improve students' artistic creativity and self-expression.

我将与视觉艺术相关的学生和教师进行个人访谈，了解与视觉艺术相关的批判性思维经验，并观察视觉传播艺术相关的课程，了解批判性思维对视觉艺术教学法的作用和价值。这些课程观察和采访将被记录下来。

I will conduct personal interviews with visual arts related students and teachers to learn about critical thinking experiences related to visual arts and observe visual communication arts related classes to learn more about the role and value of critical thinking for visual arts pedagogy. These sessions and interviews will be recorded.

是必须参加的吗？

Do you have to take part?

该研究是自愿的，不是必须的。拒绝参加或撤回参加不会影响你作为大学工作人员的任何其他方面，或以任何其他方式。

You do not have to participate either in the observation or in the interview and refusing to participate or withdrawing participation will not affect any other aspects of the way you are treated, as a member of staff in the University, or in any other way.

你将在该项目中做什么？

What will you do in the project?

如果你愿意参与观察。除了你作为教师在做的事情之外，你不会被要求在观察课上做任何事情。

If you are willing to participate in observation. You will not be required to do anything in the observation sessions other than what you are already doing as a teacher.

如果你愿意接受采访，我将向你询问有关你在视觉艺术教学中的批判性思维的经验，特别是与学生在艺术创作中的思考和表达能力有关的问题，包括你使用的教学方法。面试将持续 45 至 60 分钟。

If you are willing to be interviewed, I will ask you questions about your experiences with critical thinking in teaching visual arts, particularly as it relates to students' ability to think and express themselves in their art making, including the teaching methods you use. The interview will last 45 to 60 minutes.

你为什么被邀请参加？

Why have you been invited to take part?

这项研究旨在了解批判性思维在视觉艺术教学法中的作用，因此，收集教授这些技能的相关人员的经验和意见非常重要。

This study was designed to understand the role of critical thinking in visual arts pedagogy, so it was important to gather the experiences and opinions of staff who teach these skills.

参加研究对你来说有什么潜在风险？

What are the potential risks to you in taking part?

参与这项研究预计不会给你带来任何不利或不适。然而，有些人在讨论自己的经历或与批判性思维有关的话题时可能会感到害羞或不自在。我们想重申，在访谈过程中，你不必回答任何你不想回答的问题，而且你可以在任何时候撤回你的参与，而不需要给出理由。

Participation in the study is not expected to cause you any disadvantage or discomfort. However, some people may feel shy or uncomfortable discussing their own experiences or topics related to critical thinking. We would like to reiterate that you

do not have to answer any questions you do not want to answer during the interview, and that you can withdraw your participation at any time without having to give a reason.

项目中的信息会如何处理？

What happens to the information in the project?

所有收集到的数据将被保密，并安全地存储在受密码保护的计算机上。在研究结束 5 年后，它们将被安全地销毁。

All the data collected will be kept confidential and stored securely on password protected computers. They will be securely destroyed 5 years after the study has been completed.

在出版物或任何其他关于研究结果的介绍中，不会有任何参与研究的人的身份。

None of the participants in the study will be identified in publications or any other presentations about the findings.

斯特拉斯克莱德大学已在信息专员办公室注册，该办公室执行 1998 年数据保护法。所有关于参与者的个人数据都将按照 1998 年数据保护法的规定进行处理。

The University of Strathclyde is registered with the Information Commissioner's Office who implements the Data Protection Act 1998. All personal data on participants will be processed in accordance with the provisions of the Data Protection Act 1998.

感谢你阅读这些信息--如果你对这里所写的内容有疑问，请提出任何问题。

Thank you for reading this information – please ask any questions if you are unsure about what is written here.

接下来会发生什么？

What happens next?

如果你同意参加这个项目，请在所附的同意书上签字，以确认你愿意参与这个过程。

If you agree to taking part in this project, please sign the attached consent form to confirm your willingness to participate in the process.

如果你不愿意参与这个项目，谢谢你的关注。研究结束后，所有参与者将通过在大学的展示获得反馈。

If you do not want to be involved in the project, thank you for your attention.
All the participants will receive feedback through presentations at the University after the study has been completed.

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Appendix 4: Consent Form for teacher

老师同意书

Consent Form for teacher

研究的题目：批判性思维对中国视觉艺术教育的价值和作用探究

Title of the study: An investigation into the value and role of critical thinking for visual arts education in China

我确认我已经阅读并理解了上述项目的信息表，并且研究人员已经回答了任何令我满意的问题。

I confirm that I have read and understood the information sheet for the above project and the researcher has answered any queries to my satisfaction.

- 我明白我的参与是自愿的，我可以在任何时候退出这个项目，直到项目结束，而不需要给出理由，也不需要承担任何后果。如果我行使退出的权利，并且不希望我的数据被使用，任何从我这里收集的数据都将被销毁。

I understand that my participation is voluntary and that I am free to withdraw from the project at any time, up to the point of completion, without having to give a reason and without any consequences. If I exercise my right to withdraw and I don't want my data to be used, any data which have been collected from me will be destroyed.

- 我明白，我可以在任何时候从研究中撤回任何个人数据（即能识别我个人的数据）。

I understand that I can withdraw from the study any personal data (i.e. data which identify me personally) at any time.

- 我明白，匿名数据（即不识别我个人的数据）一旦被纳入研究，就不能撤回。

I understand that anonymised data (i.e. data which do not identify me personally) cannot be withdrawn once they have been included in the study.

- 我明白，调查中记录的任何信息都将是保密的，任何能识别我身份的信息都不会被公开。

I understand that any information recorded in the investigation will remain confidential and no information that identifies me will be made publicly available.

- 我同意成为项目的参与者

I consent to being a participant in the project

- 我同意作为项目的一部分被录音和/或录像。

I consent to being audio and/or video recorded as part of the project

参与者姓名 Signature of Participant:	
日期 Date:	

Appendix 5: Semi-structured interview for student

Personal experience

Tell me a little about yourself as a student at university?

How did you come to develop an interest in art?

Which artists and artistic styles give you inspiration?

How do these artists/ style influence your thinking and your work?

How do Chinese higher visual arts students perceive critical thinking?

How do you understand critical thinking?

Do you think critical thinking is important to you?

How do you think critical thinking can be acquired?

What are examples of using critical thinking in your daily life?

How Chinese higher visual arts students perceive the role of critical thinking for visual arts?

Do you think critical thinking is an important skill in art learning?

Who do you think are some artists who think critically? Please give examples and why?

Does critical thinking have an impact on the style of art making?

Do you feel that you use critical thinking in your artistic process? Please give an example

How is critical thinking reflected in the pedagogy of higher visual arts education in China?

What role do you think the teacher should play in the classroom?

What teaching techniques or strategies do you think would enhance critical thinking?

Are you able to actively participate in problem thinking in the classroom? How do you respond to the teacher's class?

Do you find the assignments and tasks assigned by the teacher helpful for critical thinking?

What curriculum changes would you like to see in the next few years?

Appendix 6: Semi-structured interview for teacher

Personal experience

Tell me a little about yourself as a teacher?

How would you describe your general philosophy towards teaching Art?

How is this seen in your practice?

How do Chinese higher visual arts teacher perceive critical thinking skills?

How do you understand critical thinking?

Do you think critical thinking is important to you?

How do you think critical thinking can be acquired?

What are examples of using critical thinking in your daily life?

How Chinese higher visual arts teacher perceive the role of critical thinking for visual arts

Do you think critical thinking is an important skill in art learning?

Who do you think are some artists who think critically? Please give examples and why?

Does critical thinking have an impact on the style of art making?

How can we assess the use of critical thinking in students' art making?

How is critical thinking reflected in the pedagogy of higher visual arts education in China?

What do you think the role of a visual art teacher is?

What is your knowledge and experience with standards-based education? Does it engage students in active thinking during class and improve critical thinking?

Describe a teaching technique or strategy that is relevant to you regarding critical thinking?

How would you assign assignments or tasks to students? How do these tasks promote critical thinking?

Describe different student creative styles and how you adapt the curriculum to benefit these different styles?

What curriculum changes would you like to see in the coming years?

Appendix 7: Semi-structured observation form

semi-structured observation schedule

Class:

Course Name:

Time:

Location:

Learning environment:		
Teaching instruments:	Projector, multimedia, drawing tools and other tools needed for the course	
Other comment		
Preparation for class:		
Student		Teacher

Course Content	Have a basic understanding of the content of the course		Course Content	There are concepts in the courseware that address the main content of the course	
				There are links to resources for this course in the courseware	
Materials required for the course	Supplies for craft courses, such as carving knives, paint brushes			Detailed examples are available in the courseware for demonstration	
				The lesson is well organized and brief	
				Supplies for craft courses, such as carving knives, paint brushes	
Other comment					
Classroom Performance:					
Student			Teacher		
Learning Objectives	Students can pay attention to key elements of the course (as evidenced by whether notes or other means are taken at key elements)		Teaching Objectives	Clear and appropriate teaching objectives	
	Students can actively participate in the course and initiate discussions			Teaching objectives have a sufficient pedagogical basis	
	Students show interest in the classroom			Core knowledge is presented in a clear and concise manner to facilitate students' understanding	
				Knowledge involves horizontal and vertical knowledge links	
Questions Asking	Students are able to take the initiative to ask questions of the teacher		Questions Asking	The questions are focused on the content learned in the course and have a clear purpose	
	Asking questions is based on the course			Questions are open, unstructured questions that help students think critically	
	The question is about the course extension knowledge			Questions address connections to life	

Question Answering	Students are able to answer questions actively rather than being asked passively by the teacher		Question Answering / Course Support	The teacher is able to respond to students' questions	
	Students are able to answer questions around the problem			The teacher can give a fair and objective explanation	
	Students are able to confidently express a different opinion			The teacher can provide multiple perspectives and views	
	Students are able to make reasonable explanations based on their own opinions			Teacher can actively encourage students to think critically about issues	
Group activities	Students will be able to share ideas with their group		Course Activities	Teachers can provide knowledge extensions beyond the course	
	Students are able to work with group members to complete the teacher's tasks			The teacher is able to guide students according to their individual differences	
				Group activities have been added to enhance interaction with the classroom	
				The course provides students with the opportunity to access information on their own	
				Other innovative classrooms to increase access to knowledge	
Other comment					

Appendix 8: Teacher's Initial Coding

	GD1	GD2	GD3	GD4	FA1	FA2
Educational background	Arts and Crafts	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Oil painting	Sculpture
Courses taught	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Oil painting	Oil painting/Foundation courses
Course Aims	Innovative Training	Problem solving	Designers' responsibilities	Adapting instruction to the student's goals.	Artistic aesthetics	Emotional expression
	Skills and tools use		Perceptions of things		Specialist knowledge	
	Application-based teaching	Expressive approach	Skills and tools use		Techniques, tools and material use	Techniques, tools and material use
			Application-based teaching		Application-based teaching	
Critical thinking important or not	Important	Important	Important, but creative thinking is even more important	Important	Very important	Important
Understanding of critical thinking	Value judgement/evaluative thinking	Problems identified	Critical reflections on the real world	A critical eye for things	Discovering the imperfections of the world	Multiple perspectives
					Breaking out of the traditional framework	
		Breaking out of the traditional framework	A questioning and verification of existing information		Multiple perspectives	Breaking out of the traditional framework
	Critical thinking is the basis for creative thinking		Critical thinking is included in creative thinking		Giving evidence to support the view	
How to gain critical thinking	Growing Experience	Social environment, educational environment	Subtlety of the environment	Teacher's guidance	Congenital factors (inborn)	The cultural environment determines the perception of thinking
Working environment/Learning Environment						
The use of critical thinking in the arts	Promoting design thinking	Multiple perspectives	Oil Painting Speciality (Topic)	Unlike painting, which focuses on personal expression and reflection, design tends to use rational thinking to reach conclusions		Presenting traditional culture with modern artistic expressions
	Thinking through the design of common objects in life from multiple perspectives		Choosing the right presentation		When creative thinking provides multiple ideas, critical thinking is used to judge choices	
Students' critical thinking use	Test-based education affects students' critical thinking	A few students have	Test-based education affects students' critical thinking	A few students have	Test-based education affects students' critical thinking	Test-based education affects students' critical thinking
	Fourth year students are somewhat more capable than first year students		A few students have		A few students have	A few students have
Expected course changes	Studio system	To increase social practice, to focus on social issues and then to analyse what we can do for society by doing design (other than commercial advertising).	Bridging the four years of the curriculum into a holistic, systematic learning model	Blurring of subject concepts so that students are not bound by subject frameworks, e.g. graphic students can study oil painting or experiment with a variety of possibilities	The curriculum environment could provide a bridge to the social environment	Student-centred
	Student-centred				One expert with many abilities	
	Interdisciplinary teaching and learning					

Presented with xmind

Appendix 9: Initial Coding for Graphic Design Students

	GD-S1	GD-S2	GD-S3	GD-S4	GD-S5	GD-S6
Educational background	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication	Graphic Design/Visual Communication
Why study art	Art subjects are easier to get into university	After being exposed to art from a young age, she fell in love with the stop-motion animation "Ghost Mother"	Art subjects were easier to get into university but became more confident later on in their studies	Studying art to get into a better university and finding it interesting afterwards	Studying art to get into a better university and finding it interesting afterwards	Artistic family
Preferred Course (Reason)	Integrated craft courses (novelty materials) e.g. woodblock prints	Illustration design, as the teacher encourages creativity and high marks are given for unconventional work that feels new	Cultural and Creative Design Integrated craft classes	Creative arts and integrated materials classes, as they integrate the lessons learnt These courses are hands-on and interactive and are freer than theoretical classes	Cultural and Creative Design, Don't like proposition design	No, the course is superficial. The feeling of not having learned anything
Views on current Chinese art education	Exam-oriented education standard answer Lack of inquiry into issues	Entries, as well as coursework, require 'zhuaxuan' (specifically positive) themes, which are far too restrictive. Art needs negative direction too	Test-based education with uniform style preferences in different areas of the art entrance examination Many colleges are deeper than undergraduate universities	The exam-oriented mindset of high school is difficult to change during university	Many drawing techniques are just a template, where the teacher tells you how to draw and the students no longer have to figure it out for themselves	Many academics come out of university reduced to artisans, not artists. If you want to work, you have to enroll in additional off-campus courses
Views on art	Good artwork Individuality, style, innovation Emotions, meaning conveyed Artistic skills	A presentation and satire of social reality	Colour is an exponent of emotion Skills are as important as the first glance that will attract the audience	Artistic creation does not have to be something very new, but rather the ability to step outside of the original framework and find another way of expression in the old things themselves	Either with great painting skills or with meaning	Art from life, observation of life Modern artists are too emotionally charged and develop a high level of art that is difficult to interact with the audience.
Favourite artists/works/styles	Thierry Feuz	1 Character design and set design for Frankenstein's Dog 2 Honoré Dumière	Yang Liqing	Hu Pan	Xia Mu	Tian Siqiong
Preferred artist/work/style (reasons)	"Supernatural", "psychedelic", "coloured", his works have their own style with bold colours	1 Morbidly exaggerated and somewhat bizarre, and a series of reflections on life, and death alone. 2 Works of the third class carriage, depicting the hierarchy in the social context of the time	Bold colours, and comfortable geometric combinations, flat commercialism. For the use of cultural motifs	Make the packaging design more artistic and a lot of Chinese elements, Chinese style Old elements brought to fresh energy	European medieval art styles Complex flow of line composition	East Asian art that has a sense of mystery. The work is tense
The influence of the artist's style	This awareness and realm cannot be reached, but one will learn his use of colour and technique	It makes one think about life, the series of lonely deaths. This darker side is rather more touching	For painting colours use	Improve your aesthetics and learn about colour	Composition and colour scheme	For colour forms to learn from and then combine with your own style Imitation is only an element. It is the aesthetic enhancement that has an impact on you
Critical thinking important or not	Important. (But few people will have)	important	important	important	important	important
Understanding of critical thinking	Seeing things from multiple perspectives for example anything is like a Rubik's cube with different sides, but sometimes we can only see one side, when we think about it it is a push that makes the cube turn is when we can see the other sides. If we want to restore the cube (the thing), we need to judge the truth of the thing itself. Critical thinking is the basis for creative thinking	Step outside of worldly prejudices and the influence of artificially manipulated social circumstances under cover and restore society to its essence. Creativity is a process of building something from nothing and is about coming up with something new, whereas critical thinking is about polishing, digging and reflecting on an existing thing to achieve a spiral of improvement.	Identify your own shortcomings Evaluation thinking Dare to think out of your "comfort zone" and experiment Accepting a different perspective	The process of problem solving / questioning and then seeking proof Critical thinking is mostly present in work-based learning Creative thinking has an element of surprise, critical thinking is more purposeful Breaking out of the traditional framework	Offers many new perspectives	Academic research, philosophical reflection Updated value judgements See things from multiple perspectives
How to gain critical thinking	Growing Experience Learning Environment/reading	few people will have Input of information about yourself by others Questions about your thoughts, decisions Questions about social issues	Experiences gained Interpersonal Communication	Subtlety of the environment	With later training, the mind of a child is different from that of an adult	Subtlety in life
The use of critical thinking in the arts	Original Thinking through the design of common objects in life from multiple perspectives In-depth exploration of the topic	Breaking out of a fixed pattern Showing off your own style The creation of original design	Selection of ideas for the work The process of refining your work	Identify the problems with the work and then go about correcting them Creating old things with a different perspective	The ability to make some very deep meanings conveyed by the work A different perspective to enhance originality	Adding depth to the work Critical thinking drives the work forward
artwork design	Topic: Chinese Studies and Wellness (Final work) Content: A board game to introduce young people to traditional Chinese health practices (no draft yet, just a literature search)	Theme: Forbidden City Cultural Creations Creative process: search for representative buildings in the Forbidden City and draw them out.	Theme: Bright Peak logo design Content: The sun represents the light and the iconic Shaolin Temple building represents the summit of the mountain. The text is pictorial, resembling a person climbing the steps.	Theme: Marine Conservation Poster Design Creation: The theme comes from the news that said Ecology is a crime, like the big fish eating the small fish, and the pollutants eaten by marine life end up on the table again	Theme: Packaging design for Zing Jia Creation: One of the specialties of Yucheng, Shangqiu, Henan, is to highlight this regional culture very well, and I was thinking of something that could show this regional culture and regional characteristics of ours, and then I thought of Henan's Henan opera. So I added illustrations related to Henan opera to the packaging.	Topic: Telephobia Content: A kind of oppression and voyeurism brought to us by virtual networks topic: working people on the way Content: A sculptural form of a squashed human figure to show the congestion on the way to work
Expected course changes	Teacher Guiding rather than testing Increase in open classes (e.g. debates) Addition of practical subjects (e.g. manual, software) The course time is too short to study a course in depth. Hope to offer an intensive course	Add lessons to the curriculum to guide students' thinking (e.g. debating competitions)	Adding an outdoor classroom (museum)	Adding an art lab to improve students' hands-on skills The course should be up to date and understand what the market needs	Increase opportunities for group sharing and debriefing to foster teamwork	Increased freedom in the classroom Depending on each academic development plan, different curriculum development plans are adopted, such as increasing academic writing for those who want to study in graduate school and increasing social contact for those who want to work

Appendix 10: Initial Coding for Fine art Students

	FA-S1	FA-S2	FA-S3	FA-S4	FA-S5	FA-S6
Educational background	Oil painting	Oil painting	Oil painting	Oil painting	Oil painting	Oil painting
Why study art	Interested in art as a child	Learning to sketch from an early age	I didn't really like art at first, but after studying it I found the panels fascinating	Art is particularly interesting compared to the tedium of cultural studies because it has no fixed answers	Interested in art as a child and went on to professional art in high school	Interested in art as a child
Preferred Course (Reason)	No preferred course, current course superficial	Integrated materials course, as a variety of materials can be tried	Optional fresco class, because of interest in the history and culture of the Northern Wei period and the mystery of religion art investment classes	Integrated materials courses, as a variety of materials can be used to express	Investing in art and being able to learn beyond the classroom	No preferred course, current course superficial
Views on current Chinese art/education	Primarily focused on technical instruction, but incorporating a significant amount of expressive techniques, such as mixed media	Many teachers have their own preferences when it comes to marking, so catering to them is the only way to get high marks	The compositions for the course can feel restrictive, preferring to paint as they go. Even when the teacher says there are no restrictions, they often turn out to be restrictive Not much has been learned in terms of skills either	The concept is to match the business sector after graduation, but students do not understand the business operation model	China's art examination system is boring and mechanically infused with knowledge	There is a fixed framework, so students will learn a particular style in order to get high marks
Views on art	feel constrained	A better sense of colour	Art is the expression of free emotion, for example, when listening to music in an immense way, the lines of a painting move to the rhythm of the music	Have something to communicate Judging artworks according to their age Recording life Commercial value —— Your own unique individual style	Painting is free and passionate and should not be bound by a framework. There are good sides and there are bad sides. Many propositions require a positive attitude, which is only one aspect of art. Painting skills are fundamental, and all schools of painting are built on solid fundamentals	From the inside this piece feels good, a sense of awareness
Favourite artists/works/styles	Keith Haring	Monet, Manet	Ma Yuan	Cai Guoqiang	Basquiat	Monet
Favourite artists/works/styles(Reason)	Favours clean, flowing lines	Adding your own subjective consciousness to an object makes it feel different from looking at it directly	I saw this while studying Chinese and American history and theory and really liked his style. Oil painting in a kind of Chinese painting form	For example, the fireworks ladder, which incorporates thoughts of loss one into its creation	Unlike the traditional realistic style of painting, his graffiti is spontaneous and uses his unique artistic symbols to express ideas	Love the dreamy colours, evokes a lot of fantasy
The influence of the artist's style	Learning stylistic patterns	Learn about colour and composition	For this innovative form of love and experimentation	Heightened aesthetic, conceptual	It's not about imitating its elements, it's about learning to find your own style. For example, this "spontaneous" attitude I use to express my work	colour
Critical thinking important or not	important	important	important	Important	important	important
Understanding of critical thinking	Different perspectives	A more comprehensive and specific perception of the whole thing Acceptance of different perspectives	To criticize a point of view, criticism is not to deny, but to better develop Unlike creativity, which is directed at one point of view, creativity is diffuse	Judging in the presence of professional background competence	Dialectical thinking, judging events	Multiple perspectives Maintain an objective approach to things Judging Values
How to gain critical thinking	Post-secondary learning, such as social media, textbook reading, and travel	A combination of congenial and environmental influences	To a certain extent it is innate, but most of it comes from an acquired family and social environment	Creativity comes from birth, while criticism comes from an acquired mode of thinking, as criticism requires a literary basis	Subliminal influences	personal experience
The use of critical thinking in the arts	Reducing personal bias, I previously found abstract art incomprehensible, after contemplating the knowledge behind it, I can now appreciate it.	Allowing me to go beyond mere description in my paintings to understanding of objects	Critique the work and improve it. —— Mostly in the painting technique	Unlike creativity, criticism has a clear purpose Art Criticism	Art criticism/evaluation The author's own criticism of the work (Enhancing the quality) Critical feedback from the audience on the work (Improving the aesthetics of the public)	Judging the advice given by teachers/peers rationally and choosing the ideas that make the work look better Courage to challenge authority
artwork design	A portrait	Two oil sketches	Some oil paintings of realistic figures	Topic: Women What it's about: As a woman I know how difficult it is for women in society. So I wanted to express these difficulties. Highlighting women's confusion about their prospects	Topic: Negative emotions What I created: Because I have anxiety myself, when people speak to me I focus on the negative words, even if they compliment me. I wanted to show a portrayal of what happens when I receive negativity	Theme: Alzheimer's disease (Graduation Project) The creative process: first for the literature search, as pictures can frame the mind and reduce the possibilities. And the text can leave room for imagination. And then ideas are generated. The teacher gives suggestions according to the different ideas What was created: Because of the concern for social issues and the fact that my grandmother has this disease, I wanted to do a related theme.
Expected course changes	I hope the teacher could incorporate more practical activities into the lessons, particularly in the art criticism classes.	Lessons for students to explore freely, whether it is a literature reading class or an unrestricted drawing class.	I hope the teacher will guide me in different styles	I hope the teacher will share some thoughts on the current art market in class	The introduction of theoretical courses and a development of practical courses	I hope the teacher will be receptive to different styles of painting Do not want teaching models such as flipped classrooms as students will be nervous and focused on their own content and ignore others when they have not completed their own presentations, reducing the effectiveness of learning Theoretical coursework exam format would like to add essay writing with more freedom for essays