China's Perspectives on the Modern Educational Value of Critical Information Literacy

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Abstract: Critical information literacy is a new and important direction of information literacy education for university students in the new media era. By comparing critical information literacy between China and the West, combining with the research on information literacy education in China in the past 20 years, and based on the three major relationships that Chinese philosophy is concerned about that people need to face in the world of life, i.e., the individual and the self, the individual and nature, and the individual and the society, this paper defines critical information literacy as that individuals, as information subjects, discover, select, confirm, and evaluate the information they are exposed to by obtaining and discriminating the content elements of the information world (information sources, information, and information assets) and using critical thinking skills and methods, creatively interpret or solve the relevant problems arising from the interaction between individuals and self, individuals and nature, individuals and society, and form the literacy that represents the knowledge, ability, attitude, habit, and level of the information subject through continuous reflection and practice. In order for human beings to better understand the world and construct it responsibly, critical information literacy can play a greater role and educational value. It not only helps contemporary college students build knowledge of "good questioning" and enhance their "reasoning" skills, but also encourages them to maintain a "firm standpoint," cultivate a habit of "healthy skepticism," and enhance their "decision-making" skills.

Keywords: New media; University students; Critical information literacy; Educational value; Chinese philosophy

1. Introduction

On 11 December 2013, the United Nations Educational Scientific and Cultural Organization (UNESCO) released the "Global Media and Information Literacy Assessment Framework," which states that the goal of media and information literacy education is "to develop a person's ability to think critically, acquire and analyze information, and communicate effectively." The "Information Literacy Framework for Higher Education," adopted by the ACRL Board of Governors on 5 February 2015, states that "the higher education environment is rapidly changing, and the information ecosystems in which we work and live are dynamic and amorphous.

students have an even more important role and obligation to create new knowledge, to recognize the contours and dynamics of the information world, and to use information, data, and scholarship wisely." The

development trend of new media's interactivity, intelligence, and video has not only resulted in the emergence of massive amounts of information, but also brought about issues such as the credibility, complexity, and value orientation of the information, which puts forward the urgent requirements for the innovation of information literacy education in colleges and universities, and critical information literacy has become a new and important direction of the information literacy education for contemporary college students. When the process of social acceleration increases the pace of social change from inter-generational to intra-generational, the cultivation of critical information literacy of college students in the new era is the key to grasping the law of social development and enhancing the internal development power of information subjects.

2. Critical information literacy: A comparison of Chinese and Western perceptions

Western scholars see critical information literacy as the application of critical pedagogical techniques to the teaching of information literacy, which focuses on developing students' ability to ask thoughtful questions (rather than clear answers), on par with their ability to locate, access, organize, evaluate, and apply information in the research process. As a state of human alertness to information, critical information literacy leads to an understanding that information is socially constructed and that it is used in creative, contextualized ways to generate new information. As such, this literacy is a tool for counteracting fake news, which not only allows people to survive the flood of information but also enables them to build a more ethical society primarily in terms of information use.

Chinese scholars have three main perspectives on critical information literacy. Firstly, from the field of information literacy, it is believed that critical literacy is one of the information literacies, and the specific behavioral requirements are manifested in the ability to reasonably and critically screen information. Secondly, suggesting that because the "ideal" critical thinker is open-minded and fair-minded from a critical thinking perspective, he or she searches for evidence, is well-informed, is attentive to the views of others and their reasons for those views, does not assert more than is warranted by the evidence, and is willing to consider different ways of thinking and to correct opinions. Therefore, any educational system should include the goals of teaching critical thinking knowledge, developing critical thinking skills, and fostering critical thinkers with critical thinking attitudes and habits. Thirdly, by integrating critical thinking and information literacy, it is proposed that critical information literacy is a new concept under the composite of critical thinking and information literacy, which refers to the ability of an information-literate person to deal with information critically and to be able to make informed decisions about the developed search strategies, the information sources utilized, the results obtained, and the information sources identified, etc.

3. Critical information literacy: Research and conceptualization in China
3.1. Overview of research in China in the last two decades

China's research on information literacy education in the past two decades has been divided into three phases. (1) From 1991 to 2000 was the preliminary exploration phase of information literacy education, which did not reach a consensus on the connotation and extension of the concept at the theoretical level, and at the practical level, it was still a reader's training that mainly consisted of a literature search course, and with the rapid development of information technology, both the goal and content of information literacy education needed to be adjusted accordingly. (2) From 2001 to 2010 was the deepening phase of information literacy education, which made a significant contribution to the study of critical information literacy in China. With the rapid development of information technology, the objectives and contents of information literacy education need to be adjusted

accordingly. This stage of the investigation of the current situation of information literacy in China's various regions and types of students has achieved remarkable results and summarized the characteristics of China's information literacy education as "libraries are the main source of education; online information education is a new mode of independent learning; all-rounded education and training; the content of education has shifted from a single information retrieval ability training to a new mode of information literacy education. information retrieval ability training to the transformation of information awareness, information ethics, and information competence cultivation." (3) Since 2010, the stage of information literacy education has been carried out at the theoretical and practical levels, and there is a notable feature of information literacy education in China in this period, that is, the theoretical research and practical exploration have never been more closely integrated, and there are more related papers than ever before. The shortcomings are that the content of information literacy education lectures cannot be combined with students' majors, the effectiveness of the lectures is limited in promoting students' consolidation of what they have learned, and so on, and the multi-level and multi-dimensional information literacy education is yet to be expanded and innovated.

3.2. Critical information literacy: Conceptual definition in Chinese philosophical perspective

For a long time, the conceptual definition of critical information literacy in China has mainly drawn on and applied Western theories to analyze and study critical information literacy. Unlike the views of these researchers, we believe that people's thinking habits are influenced by culture, although it is true that China's cultural and educational traditions have a tendency to train students in the area of "how" and less in "why," it does not mean that there is no critical thinking in Chinese culture. On the contrary, we should use critical thinking to re-examine the prejudice and unfriendliness towards critical thinking in Chinese philosophy and culture presented by critical thinking and education, so as to be more conducive to our own development from the perspective of cultural self-confidence to that of critical thinking. This will be more conducive to the establishment and improvement of critical information literacy education from the perspective of cultural self-confidence rather than presumptuousness. In this regard, not only have scholars in China started relevant research, for example, Xiaobei Wu suggested that "discernment" is a Chinese expression of critical thinking [1], but also Western scholars have realized that their theories and perspectives on critical thinking have great limitations. Leon Moosavi of the University of Liverpool suggested that the common perception that East Asian students lack critical thinking may inadvertently reinforce stereotypes rooted in historical narratives. This "imagined geography" codifies "us" and "them" in an arbitrary manner, dividing the world into simplified binary camps is extremely limiting, and sincere steps need to be taken to redress inequalities in higher education [2]. Particularly in the light of the current context of building a community of human destiny, the critical thinking and characteristics in Chinese philosophy and culture and their positive values and connotations for the self, nature, and society need to be focused on, explored, and demonstrated.

For this purpose, based on the three major relationships that Chinese philosophy is concerned that people need to face in the world of life, i.e., the individual and the self, the individual and nature, and the individual and society, this paper defines critical information literacy as the ability of an individual, as the subject of the information, to acquire and analyze the elements of the world of information (sources, information, information assets), to apply critical thinking skills and methods to discover, select, verify, and evaluate the information that he or she is exposed to, creatively interpret or solve problems arising in the process of interaction between the individual and the self, the individual and nature, and the individual and society, and through continuous reflection and practice, form a literacy that characterizes the knowledge, abilities, attitudes, habits, and levels of the subject of the information. We need to grasp and understand the six key points of the connotation of critical information literacy: (1) Critical information literacy is built on the basis of information literacy; (2) Content

elements refer to the object of the information subject's activities, including all kinds of information sources, information, and information assets; the information source is the source of the information subject, which is capable of providing its needs, and may be both material world things (such as plants, experimental supplies), or objective knowledge records (e.g., books, journals, databases), or the mind of the subject of information or other people [3]; (3) It emphasizes the whole process of using critical thinking to deal with information; (4) It attaches importance to the creative interpretation of the cognitive level or the solution of related problems on the practical level; (5) It involves three major domains of the individual as the subject of information, namely, the individual and the self, the individual and the nature, and the individual and the society; (6) The development of critical information literacy requires persistent lifelong learning and practice in order to better face and adapt to the iteration of knowledge updating and the development of information technology.

4. The modern educational value of critical information literacy

4.1. Building knowledge of "good questioning"

As a kind of literacy that emphasizes not only the ability to use information but also the effective use of information, the information knowledge view of critical information literacy reflects the consistency with the basic orientation of critical theory, i.e., the purpose of searching for, researching, analyzing, and judging information is not to solve the problem of "to be," but to solve the problem of "should be." Therefore, critical knowledge has three characteristics: (1) constructive, that is, knowledge cannot be a "mirror" reflection of the essential properties of objective things, any cognitive activity is always the subject of the "inner" understanding and the subject of the objective world of an interpretation. The truth is not always a true expression of objective existence, "truth is a product of the spirit" [4]; (2) reflective, emphasizing that true knowledge is gained through critical thinking activities, and that all knowledge is a "tentative" theory and a "speculative" explanation of existing problems, to be further tested and refuted; (3) value-loaded, emphasizing that knowledge is constructed and generated by individuals based on their own experiential background, which depends on a person's cultural background, social background, traditional concepts, customs, and habits, as well as on the material conditions and spirit of the era in which they are living, their level of knowledge, and their national psychological structure, and so on [5], the learning and use of knowledge carries a value attribution in line with the subject of information. Education based on critical knowledge requires that educated people take knowledge as the object or text of their reflection, research, exploration, and experimentation, rather than the idol or "legal book" that they worship, and advocates "research-based learning," "reflective learning," "inquiry learning," "innovative learning," and other educational concepts [6].

4.2. Enhancing the "reasoning" skills

The ability element of critical information literacy mainly refers to higher-order thinking in the sense of cognitive psychology, which is the key ability of individuals to adapt to the environment and find cognitive balance. In specific cognitive situations, higher-order thinking is manifested in the individual's ability to identify the connection between existing knowledge and external information, transfer background knowledge to new situations, and solve problems without definite answers in complex environments, which is a complex thinking process with the synergistic effect of multiple cognitive components. Its conceptual framework includes five cognitive components: "analyzing the problem situation," "establishing the relationship between old and new knowledge," "synthesizing information in different dimensions," "generating innovative knowledge," and "supervision, management, and regulation of the thinking process" [7]. Constructivist theory holds that individuals are not passive receivers of external information, but are active, positive constructors of

knowledge, and that there are three main types of higher-order thinking from its perspective: critical thinking, problem-solving thinking, and creative thinking. From the perspective of cultivating human beings, critical information literacy requires all three kinds of higher-order thinking, the core of which is critical thinking. For the difference and connection between the three kinds of higher-order thinking, each has its own views and analyses; standing in the perspective of information philosophy, it is considered that it helps to better explain and guide the purposeful construction of the knowledge environment, and can provide systematic processing of the conceptual foundation of contemporary society, so that human beings can understand the world and responsibly construct the world [8]. In particular, it is a breakthrough from the limitations of cognitive psychology (information processing theory) represented by Bloom's classification theory of educational objectives: the arbitrary cutting of the "whole person"; the isolation of motor skills and affective domains; and the existence of outcomes without processes [9]. Accordingly, the author believes that the "high" of higher-order thinking should be a kind of transcendental thinking, which is not limited to the "high" of the ego, but a kind of "high" of the realm, for example, problem-solving, creative thinking, and critical thinking from the standpoint of the collective, the group, the state, and the nation bring quality, effect, realm, and influence. The three kinds of higher-order thinking focus on and differ from each other in the following ways: problem-solving focuses on the timeliness, relevance, and effectiveness of thinking in the face of problematic situations; creative thinking attaches importance to new perspectives, methods, and conclusions; and critical thinking stresses the ability to integrate concepts and make judgments through higher-order thinking with regard to information related to the individual, the self, nature, and the community in the current situation, and to acquire the cognitive ability to "reason" in order to formulate personalized opinions and coping strategies.

4.3. Maintaining a "firm standpoint"

The attitudinal element of critical information literacy is mainly concerned with the value of information, emphasizing the information subject's grasp of the potential value stance embedded in the content of the information, which presents two main features: (1) Aiming at the pursuit of comprehending the "way" of information, which implies that on the basis of analyzing the "truth" of the information existence and understanding, there is a deeper understanding of the "truth," that is, the belief in the "truth" in a given context or in a specific environment, which is not relativism; on the contrary, it expresses a deep sensitivity to and respect for the complexity of the human environment and the different ways in which truth reveals itself to us at different times, in different places, and different circumstances. The search for truth is a constant inner tendency that reveals itself in different ways to different people and even produces different answers at different times, but there is always fundamental objectivity, cognitive integrity, and an endeavor to avoid bias in the search for truth. Therefore, a good critical thinker's search for "truth" is to understand the "way" of information; (2) In addition to "what to know" and "how to do," there is also an important step in between, which is related to "consciousness" and "what to believe." This means that knowledge and ability are not enough for the information subject to face the problems of the information world, but the important role of "consciousness" in the information world should also be taken into account, and the attitude of "having a standpoint" must be maintained. As ordinary consciousness is dominated by knowledge produced through the senses and empiricism and rationality, it basically equates knowledge with beliefs and values in propositional statements produced within a type of consciousness, i.e., the "ordinary state of consciousness," which is characterized by duality, empiricism, and linear thinking. However, certain types of knowledge or understanding acquired through non-discursive practices are often inaccessible to conceptual analysis, resulting in "irrational" states of consciousness that are characterized by non-duality, non-linearity, synchronicity, and simultaneity, such as the

"Tao" in Chinese culture. The attitudinal element of critical information literacy needs to pay more attention to the "irrational" state of consciousness of human beings in the information world, which is not only in line with the cultural attributes and consciousness characteristics of human beings but also plays an important role in the process of the information subject's use of information.

4.4. Cultivating a habit of "healthy skepticism"

Almost all information literacy involves or requires good critical thinking habits, but the level of connotation or performance varies. In a comparative analysis of critical thinking and other thinking, Yingyi Qian suggested that critical thinking and creative thinking are two cross-cutting concepts that do not overlap. Critical thinking is not thinking that all propositions are wrong or all propositions are justified, but being able to judge which one is more convincing. He divides critical thinking into two levels: the level of competence, which focuses on the rigor of logical induction; and the second level, where critical thinking is a state of mind and a habit, and ultimately a value, a level that is more difficult to comprehend and to test [10].

Based on this, this paper tries to propose from the two dimensions of fixed-open and negative-positive thinking habits, and from the core of whether or not to emphasize "independent judgment," that we should advocate and emphasize the development of the habit of thinking of independent judgment of information. This reflects another mode of mind, the "growth mindset," which has two characteristics: (1) Openness, i.e., an open habit of mind, entering into the category of "what" and "why," constantly broadening the scope of thinking, thinking about issues that have not been thought of before, and asking propositions that have not been suspected before; (2) Positivity, i.e., demonstrating positive critical thinking habits such as: searching for truth, open-mindedness, analytical, systematic, belief in reasoning, inquisitiveness, and wise prudence. Positive habits of mind mean three things from an operational point of view: always valuing critical thinking, believing that the likelihood of arriving at a good judgment is greatest using critical thinking skills, attempting to use critical thinking to the best of one's ability to deal with problems and decisions, and combining values, beliefs, and intentions to form the habits of mind that predispose one to critical thinking.

4.5. Enhancing "decision-making" skills

Compared to the lack of information, which is mainly used for daily interactions and decision-making, what is more important in the new media era is to be able to accurately grasp the perspective of selecting information, and to be able to make judgments and a level decision on important matters related to oneself, nature, and society based on the information, which is difficult to achieve without having a critical spirit, the ability to perceive and reflect in-depth, or the lack of flexibility and creativity in the use of information. Therefore, while the author focuses on the result orientation of information utilization or application and the need for responsibility and consequences, the level elements of critical information literacy emphasize three main aspects: (1) Behavior after acquiring information; (2) High efficiency in information selection; (3) Making a level decision. Due to the addition of critical thinking, the level element of critical information literacy presents a further requirement to enhance the three aspects, not only focusing on the behavior after acquiring information, but also the efficiency of the information selection process, and the most important thing is whether the information subject can make a level decision after a series of information activities, and the making of this decision also implies that the information subject bears the due responsibility and consequences.

There are three main factors affecting the making of a leveled decision: (1) Metacognitive introspection, which helps to enable the information subject (either as an individual or as a group thinking together about a problem) to monitor his or her own thinking in order to identify possible mistakes and correct the ones that we

ourselves have made; (2) Internal and external balancing of consciousness, which prioritizes the development of consciousness over the creation of knowledge and skills, and which can begin to focus on nurturing human nature, looking for ways to cultivate wisdom and compassion, educating people to embody a sense of wisdom and empathy, generosity, existential contentment, tolerance, fulfillment, and courage [11]; (3) Critical personality, expressed in independence, legitimacy, openness to ideas, self-confidence, curiosity, cognitive maturity, foresight, a reflective attitude, impartiality, and a sense of responsibility and mission [12].

5. Conclusion

In the era of artificial intelligence, the network, composite, and interactive nature of new media is more prominent, especially the complexity of the evolution of the new media communication mode has changed people's past communication and exchanges mediated by natural language as well as the unidirectional transmission from point to point borne by the technological carriers, and added a richer and more multidimensional interactive links to the communication mode, so that the dissemination of information is both randomly derived and mutually interfering but also transforms and ferments. Under the impetus of the "Internet+" action plan, new media will continue to influence higher education with the development trend of interactivity, intelligence, and video. For information literacy education in colleges and universities, it is especially important to grasp the development trend and characteristics of new media, take "critical thinking" as the entry point, and then implement targeted and effective critical information literacy education.

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References

[1]   Wu X, 2018, Critical Thinking in Chinese Discourse—"Mingdian." Journal of Chongqing University of Technology (Social Sciences), (8): 15–25.

[2]   Moosavi L, 2020, "Can East Asian Students Think?": Orientalism, Critical Thinking, and the Decolonial Project. Education Sciences, 2020(10): 2–20.

[3]   Yu L, 2013, "The World of Personal Information"—The Discovery and Interpretation of a Concept of Information Inequality. Chinese Library Journal, 2013(1): 4–12.

[4]   Tang S, 2002, Constructivism's Review of Objectivism and Its Teaching Principles. Foreign Education Research, 2002(1): 20–25.

[5]   Liu L, 2013, Selection and Formation of Textbook Content—State Intervention in Knowledge Access Curriculum, Hunan Normal University Press, Changsha, 74.

[6]   Jing G, 2004, Analysing Conformity Knowledge Education and Critical Knowledge Education. Education Review, (2004): 23–25.

[7]   Ma S, Yang X, 2022, What is Higher Order Thinking—A Conceptual Framework of Higher Order Thinking Centred

on the Establishment of the Relationship between Old and New Knowledge. Journal of East China Normal University (Educational Disciplines Edition), 2022(11): 58–68.

[8]　Facione P, Facione N, Tiwari A, et al., 2009, Critical Thinking as a Universal Human Phenomenon—Chinese and American Perspectives. Journal of Peking University (Philosophy and Social Science Edition), 2009(1): 55–62.

[9]　Feng Y, Li Y, 2019, A Critique of Bloom's Taxonomy of Educational Objectives. Journal of East China Normal University (Education Science Edition), 2019(2): 63–72.

[10]　Qian Y, 2018, Critical Thinking and Creative Thinking Education: Philosophy and Practice. Tsinghua University Education Research, 2018(4): 1–16.

[11]　Bai H, Charles S, 2011, The Primacy of Consciousness in Philosophy: A Role for Contemplative Practices in Education. Philosophy of Education, 33(4): 129–145.

[12]　Tian H, 2016, Logical Foundations and Everyday Critical Thinking, Southwest Jiaotong University Press, Chengdu, 14.