ENCOURAGING CRITICAL THINKING: "BUT . . . WHAT DOES THAT MEAN?"

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ABSTRACT. Encouraging critical thinking requires refinement and growth in the process. While educators often agree that critical thinking is valuable and should be a part of the curriculum there is a pervasive vagueness about what this means. In order that critical thinking be understood, that it be regarded as more than a cliché or slogan, some clarification is necessary. This article explores the nature of critical thinking through a discussion on the use of logic, the role of the critical spirit, dialogical reasoning, assessment of criteria, the relationship of content, and the relationship of caring and connections with criticism.

RÉSUMÉ. Si les éducateurs s'entendent souvent pour dire que la pensée critique est une chose valable qui devrait être intégrée aux programmes d'études, elle n'en reste pas moins une notion vaguement définie. Certaines précisions s'imposent donc si l'on veut que cette notion soit bien comprise et ne soit plus considérée comme un simple cliché ou slogan. Cet article traite de la nature de la pensée critique par le biais d'une analyse portant sur l'usage de la logique, le rôle de l'esprit critique, le raisonnement dialogique, l'évaluation des critères, la pertinence du contenu et de l'attachement et les liens avec la critique.

"Critical thinking," a term heralded by educators, parents, administrators, and teacher educators, is agreed by most to be a desirable aim of education. It is, for example, a generally accepted aim in child-centred education (Atlantic Canada English language Arts Curriculum, 1997; Dewey, 1938). Writers of government reports (National Commission on Excellence in Education, 1983; Public School Programs Nova Scotia, 1999; The Atlantic Canada Framework for Essential Graduation Learning in Schools) and academic studies (Boyer, 1983; Goodlad, 1984) lament that many students do not develop the ability to think critically. These writers stress that a focus on critical thinking should be maintained in the curriculum. Curriculum

development materials at all levels and across the curriculum have been developed with a goal to develop critical thinking (Unrae, 1997; Wolf, 1997).

However, many people are unclear as to what critical thinking entails and what initiatives aimed at its development are supposed to accomplish. If teachers are to be successful in facilitating the development of critical thinking, then they should be knowledgeable about its nature. Kuhn (1999) argues that the task of describing critical thinking for educators is important on two grounds: conceptual and practical. Conceptually, she states that it is essential to have a definition of critical thinking in order for the "construct to be useful" (p. 17). Practically, she maintains that educators need concrete examples to know "what forms [these examples] take, how they will know when they see them, how they might be measured." The goal of this paper is to provide insight into the nature of critical thinking and the implications for teaching if one values critical thinking.

I discuss aspects and forms of critical thinking, with a focus on the work of philosophers who have examined it. Aspects and forms of critical thinking addressed include:

- the use of logic,
- the critical spirit,
- dialogical reasoning,
- assessment of criteria,
- the relationship of content,
- caring and connections with criticism.

Through this discussion it is my intention to illuminate the nature of critical thinking.

THE NATURE OF CRITICAL THINKING

Various theories emphasize different aspects or forms of critical thinking in their analyses. Hare (1994) points out that critical thinking takes a variety of forms and that writers often emphasize those parts they find most appealing. This point is significant because, when differences exist in the way "critical thinking" is conceptualized or the forms of critical thinking stressed, these differences affect how educators attempt to facilitate it in the curriculum. In conceptualizing critical thinking I believe Paul (1984) makes an important point when he states that it is important to understand that to "think critically is a matter of degree. No one is without any critical skills, and no one has them so fully that there are no areas in his or her life and thought in which uncritical thought is dominant" (p.7). In the following analysis, the role of logic, the critical spirit, dialogical reasoning, the assessment of criteria, the place of content, and caring and connections will be discussed to suggest a framework for conceptualizing critical thinking.

Critical thinking and logical analysis

To think about ideas and to call them into question in a critical manner requires that there be an attempt to think about logical relationships. Consider the example of the seven-year-old who returns from dance class and reports that the dance teacher wears a size 4 shoe, only one size larger than the child's. The child's mother responds by suggesting that the dance teacher must have small feet. The child replies, "Either that, or I have big feet." It is easy to see that the child has thought about the logic of her mother's ideas and the fact that there is another way to interpret the situation. The child followed a line of logical reasoning when considering what was known and what might be logically concluded. In this case the child thought about the facts that she knew: the teacher wears size 4 and she wears size three. Further she thought about the range of possible logical relationships between the facts. After the mother has proposed one possible logical relationship, the child sees that there might logically be another relationship between the ideas.

Logic is at the heart of Ennis' (1979, 1987) conceptualizations of critical thinking, which he defines as the correct assessing of statements. In more recent work, Lundquist (1999) argues that "fundamental to learning is reflection and the ability to draw conclusions from more or less successful attempts to come to an understanding of the issues at hand" (p.524). Ennis (1979) makes a connection between rational thinkers and critical thinking. He outlines the proficiencies (observing, inferring, generalizing, conceiving and stating, offering a line of reasoning, evaluating, detecting standard problems and realizing appropriate action) and tendencies (taking into account the total situation, and accepting the necessity of exercising informed judgement) entailed in determining correct assessment. He adds that exercising good judgement is a necessary component in the process. Ennis' account is helpful because he makes explicit some of the underlying processes involved. By naming these proficiencies and tendencies he encourages us to examine more closely the nature of thinking and to reflect upon what we are trying to facilitate in our teaching.

One of the limitations of Ennis' work is his focus on "correctness" for he represents critical thinking as moving to a fixed point – the correct answer. Instead, the formulating of ideas, answers and responses should, in my view, occur as part of a rational process in which well formulated and substantiated views are adopted with the understanding that these views may continue to come under critical review. A narrow focus on correctness is dangerous, for the need to re-evaluate may not be realized. Lundquist (1999) focuses on the importance of making good mistakes and points out that it is natural and important for students to make mistakes because learning involves some general experimentation. Further Lundquist (1999) maintains that educators need to ensure they do not provide obstacles that

discourage risk-taking and experimentation. There needs to be a curriculum that encourages students to use logic as they hypothesize and explore in their learning

Ennis (1987) stresses that while logic is crucial to critical thinking, the process is multi-dimensional, for it includes logical, criterial, and pragmatic aspects. By placing logic in a broader context Ennis encourages us to view logic as **part** of the process of critical thinking. Further, he identifies "intelligent judgement" (the need for discretionary rather than mechanical application) as a driving force within the thinking process (1987).

A problem with Ennis' 1987 conceptualization is rooted in his decision to exclude value judgements. It is his view that judging value statements complicates the process of critical thinking. Therefore, he admits that "although the root notion calls for its inclusion, the judging of value statements is deliberately excluded" (p. 22). He excludes such judgements because, in his opinion, doing so makes the model more manageable.

Some may argue that by pointing this out, Ennis' definition collapses in upon itself. A more generous interpretation might view this admission as opening the door for further refinement. My concern with Ennis' omission is of a different nature. Ennis indicates that the process is more manageable if value statements are excluded; yet he does not address the degree to which values and value statements are involved. Values are embedded in the questions asked and implicit in positions examined. An important function of critical thinking is the assessment and judgement of value statements of others and thinking about these statements in relation to one's own values. Jones (1999) argues for the importance of value awareness and its relationship to critical thinking. He states that "with a lack of values awareness, students will be ill-equipped to analyse the value-laden nature of knowledge in general" (p. 354).

Critical spirit

While the use of logical analysis is important to critical thinking, for the thinking to have a major impact within one's life, there needs to be more than a set of practices and skills for applying logic. Passmore (1967) and Siegel (1991, 1988) use the term "critical spirit" to describe the driving force in the engagement of critical thinking. Siegel (1988) depicts a "critical spirit" as the inclination, or disposition, to think critically on a regular basis in a wide range of circumstances. This spirit cannot be defined by a cluster of skills, for it is in part a way of life. According to Passmore (1967), being critical is not simply a habit, a skill, or mastery over the art of logic. He suggests that it is more like a character trait made evident by a willingness to call things into question. A student who is able to masterfully engage in literary criticism and is considered a model student in English class yet is

viewed as non-compliant with school rules regarding dress and behavior may be someone in whom the critical spirit may be demonstrated. The disposition to call into question may be at the heart of the student's willingness to analyze the literacy form and content of the text in English and question or challenge the appropriateness of the rules and procedures within the school.

If the critical spirit is a character trait, there is the issue of whether the critical spirit is generalizable, and likely to emerge in a variety of contexts. In Siegel's view, the critical spirit (but not necessarily critical ability) is generalizable to any domain or field. I concur with Siegel's advice that we could best foster the critical spirit by treating students with respect, by being open and honest with them, being willing to accept scrutiny of beliefs and practices, and by encouraging them to question their own ideas and those of others. In doing so, the values implicit in the teaching will reflect the important place of critical examination in learning.

The "critical spirit" is important to an understanding of the nature of critical thinking. It helps us to comprehend what moves an individual to apply skills, and view the world through a critical lens. It also explains why some may more readily apply critical skills than others. Consider the individual who has demonstrated skill at both judging what constitutes an assumption, and whether there is a sufficient definition, yet fails to apply these skills readily in a variety of other contexts. It can be argued that while the individual has some necessary critical thinking skills, the critical spirit may not be well developed. Another individual with fewer skills may have developed a disposition which views the world with a more critical eye. In this case, as in all cases, if the spirit and the skills work in tandem, the thinking will be more effective.

Critical thinking and dialogical reasoning

Considering the complexity of many issues which require critical thought, a linear path of logical analysis does not depict all that is involved. Many situations require that more than technical reason be applied. Richard Paul's (1992, 1984) and Matthew Lipman's (1991, 1988) works identify the value of dialogical reasoning, pointing out that many problems to which individuals need to apply critical reasoning are of a dialectical nature.

Examining issues from multiple perspectives assists in highlighting complexities, moving between one's ideas and those of others, with an openness to consider other ideas and revise one's thinking in light of new information. Dialogical reasoning means more information is made available for analysis and evaluation. Further, keeping an openness to reason about one's own thoughts in relation to the perspective of others combats an egocentric perspective. This process, which is necessary for open-mindedness, requires

that the individual be prepared to entertain the thought that she/he might be wrong, and must be willing to revise ideas in light of new information.

Hare (1985, 1979) argues for open-mindedness as an educational aim:

> An open-minded attitude is quite compatible with having principles and convictions. What is required is. . . that we regard our own (positions) as subject to revision in light of critical reflection. Moreover, regarding our moral views as subject to revision does not mean that we adopt a skeptical attitude towards them. The test of open-mindedness is rather whether or not we are prepared to entertain doubts about our views. (Hare, 1987; p. 99)

The aim of open-mindedness has been criticized by Gardner (1993). He has reservations about the educational desirability of encouraging children to be open-minded, indicating that teaching children to be open-minded leads to the prescription that we avoid ways of teaching which will promote firm beliefs, that we teach children that it is wrong to have firm beliefs. Unfortunately, Gardner confuses the ideal of open-mindedness with the neutral stance in which beliefs are never firmly held. Open-mindedness is not to be equated with neutrality and/or a lack of commitment to one's views (Hare & McLaughlin, 1994). Consider the student who holds firm convictions regarding a ban on the use of pesticides. This position has been adopted after listening critically to documentaries and reading news articles about the impact of pesticides on the environment. After a class visit to an agricultural research centre the student is provided with new information that is in contradiction to the position held. Open-mindedness would require that the child carefully consider the new information to assess whether or not there is sufficient evidence to require revision to the beliefs. The individual can, and should, hold convictions and commitment when issues and ideas have been critically and carefully examined. It is only when relevant, new information is brought to bear on the matter that one would engage in revision to one's views.

This clarification regarding open-mindedness is important for understanding the goal of dialogical inquiry. In many cases, conversations in the classroom may mistakenly be thought of as fostering a dialogical form of critical thinking. The dialogical process is not merely stating diverse opinions, or understanding and appreciating others' perspectives. Nor is it built (as Lipman and Paul claim) on the position that all views are equally valid. Instead, positions are to be well thought out, plausible, and defensible.

Paul (1992) suggests that objectivity and rationality aimed at discovering truth are crucial to critical thinking. This involves reasoning, the application of standards, and the use of logic. I believe this description is significant for it identifies the need to consider other viewpoints in a critical light. Critical thinking involves "figuring out" something which cannot simply be a matter of arbitrary creation or production: "If what we figure out can be

anything we want it to be, anything we fantasize it as being, then there is no logic to the expression "figure out" (Paul, 1992, p.18). In the process of reason and use of logic, Paul suggests that "standards be judiciously applied." The application of standards and logic requires that views are evaluated with the intent of determining truth. Paul (1992) defines critical thinking as:

> . . . disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thinking. It comes in two forms. If thinking is disciplined to serve the interests of a particular individual or group, to the exclusion of other relevant persons and groups, I call it sophistic or weak sense critical thinking. If the thinking is disciplined to take into account the interests of diverse persons or groups, I call it fairminded or strong sense critical thinking. (p. 48)

It is obvious from Paul's conception of "weak sense" and "fair-minded" critical thinking, that he regards objective analysis as supreme in the process. He conceptualizes critical thinking in a hierarchical manner suggesting that if disciplined thinking serves a particular individual or group – which I interpret to be thinking influenced mainly from a subjective viewpoint – then it is to be thought of as weaker. This raises interesting questions about the influence of subjectivity on standards and critical thinking. For example, where do arbitrary standards come from? Further, can subjective analysis be separated from objective analysis? How do standards come to be accepted? The work on how critical thinking is influenced by criteria sheds light on these issues.

Critical thinking and criteria

In dialogical reasoning it is important to understand that the purpose is not merely to think about the perspective of others, but to examine one's own ideas, and those of others, in a search for the truth. As suggested above, the criteria used for evaluating and assessing affect the outcomes of the thinking.

Lipman (1991) addresses the role of both standards and criteria in critical reasoning. He specifies that we are constantly called upon to make reasoned judgements that neither our reason nor our experience has prepared us to make. The use of criteria which, among other things, includes reasons, shared values, facts, definitions, standards, laws, principles, and conventions, is what drive judgements (Lipman, 1991). Lipman (1991) also points out that critical thinking is self-correcting, for it aims to discover weaknesses and rectify what is at fault in our thinking. An illustration of the role of criteria and the importance of self-correction is demonstrated in an example from a grade six classroom where there is a charter of rights and responsibilities (Hemming, 1997) displayed at the front of the room. This document is intended to govern the classroom laws and regulations, to ensure a sense of fairness among the class members. It is meant to be used as a criteria for making judgements about behavior and conduct. However,

one of the rights includes that the students "be treated the same way no matter whether you are different than others because no human being is more important than another." This becomes problematic when in the context one of the class members who has a learning disability might be expected to meet the same requirements for assignments as other students. The criteria embedded within the charter of rights and responsibilities has therefore been adapted in the sense that an exception was made once context was considered. Based on previous experience and reason, the original charter of rights and responsibilities was considered fair and applicable to all students – until this particular context was presented.

He suggests that it displays sensitivity to context which, of course, makes the process more difficult to describe. He further indicates that this entails recognizing exceptional or irregular circumstances, special limitations, the context of comments, the possibility that evidence is atypical, and the possibility that some meanings do not translate from one context to another.

What is helpful in Lipman's (1991) discussion is that he does not present criteria as existing in isolation, or suggest that our role is to merely apply the criteria to our thinking. Rather, he suggests we need to place the criteria under a critical lens. I believe that the suitability of criteria requires some attention as one engages in critical thinking. As in the case outlined above involving the charter of rights and responsibilities, the criteria needed to be modified. This monitoring leads to reflection on subjectivities and can assist one to engage in the strong sense of critical thinking referred to by Paul (1992). Further, by examining criteria, I believe the individual becomes more aware of how and where the standards are constructed, and how they impinge on decision making. In many cases, arriving at different interpretations, or reasoned judgements, results from using different criteria rather than because the same criteria have been correctly applied by one individual and not another.

Critical thinking and content

In discussions about critical thinking, the emphasis is understandably on the nature of thinking. However, it is important to remember that thinking does not occur in a vacuum. It must be about something. This is the point McPeck (1990) and Barrow (1991) emphasize when they argue that the great bulk of critical thinking programs are misguided in that techniques and strategies are stressed without regard to a solid knowledge base.

Sometimes, in the zeal to articulate the need for critical thinking in classrooms, a position is taken which focuses on process rather than product. This leaves the impression that, first, there is a need to replace teaching content knowledge with teaching a critical thinking process, and second,

that general thinking skills can be taught in isolation – with little attention given to content – and then applied in many other contexts. deBono (1985) for example, developed over sixty thinking strategies which are meant to be taught and practised in isolation and then applied to academic areas.

The issue of the generalizability of critical thinking, which is linked to the relationship between content and criticism, has been hotly debated by those in the field of critical thinking. If it is context specific, then teachers should be aware of the child's limited ability to transfer critical thinking from one content area to another. It may be, however, that parts of critical thinking, such as the critical spirit, are generalizable and that as educators we should encourage this process. Barrow (1991) and McPeck (1990, 1981) view critical thinking as subject-specific. They believe that critical thinking differs from subject to subject, that there are no general critical thinking skills which can be applied to all fields, and that there is no reason to expect transfer of such critical thinking skills from one domain to another.

Barrow (1991) voices concern over attempts to implement a critical thinking curriculum which does not relate criticism to content and argues that such programs typically avoid the embodiment of critical thought within certain complex, sophisticated and important areas of inquiry. McPeck (1990) suggests that critical thinking is field dependent, that any attempt to teach it as a skill isolated from a subject area is to ignore the fact that the major requirements for rational assessment are epistemological, not rational. He uses the rationale that good reasons and beliefs in one field may not count as significant in another. Further, Barrow (1991) argues that critical thinking is not a skill such as tying one's shoelaces that can be completed in a variety of contexts and that generic abilities in areas like critical thinking do not exist. Barrow (1991) argues that:

> To be logical about art is not a matter of combining logical ability with information about art. It is a matter of understanding the logic of art, of being on the inside of aesthetic concepts and aesthetic theory. (p. 12)

Barrow (1991) does concede there are "a few characteristics, some of them abilities, some of them habits, some of them dispositions, and some of them values, that if one has them, may be put in use in any setting" (p. 10). Like Barrow, I have difficulty when critical thinking skills are conceptualized as "if one has them [skills], one can set them in motion or put into practice in any situation" (p. 8). Many programs are developed on the premise that something as complex as critical thinking can be broken into parts, practised, and then somehow personalized into an approach for viewing the world. What tends to happen is that the skills are being practised on content designed specifically for practice with little relationship to problems encountered in everyday life.

A further problem with some critical thinking skills programs is they are often designed to be taught in a generic manner, to a wide range of students. As a result of the desire to appeal to a wide student audience, the content tends to be presented in a simplistic manner. Little or no onus is placed on the learner to either refer to a base of background knowledge about the topic or to reflect on the criteria used to make judgements.

McPeck (1990) uses his view on the dependency of criticism on content to defend the position that there must be a base of knowledge developed prior to critical thinking. He also believes that critical thinking should not be introduced until students enter high school having first acquired the relevant background knowledge in elementary school. With mature high school students he advocates an approach in which the epistemology of a subject would be an integral part of the study of the subject. Here, the student would be encouraged to, first, learn the facts in a given field, and second, think about why these might be regarded as the facts. I believe that McPeck's interpretation is limited. In restricting the role of elementary education to the learning of relevant background knowledge, and by leaving the epistemological study until high school, McPeck has created a dualism between content and criticism.

The problems created by separating content and critical thinking are not new. This problem was identified by Dewey, Whitehead, and Russell, who all felt that content should not be replaced with criticism, but that criticism needs to be tied to content. They argue that critical thinking should be used to examine content. As identified by Hare (1995), the desire to separate content from criticism is unfortunately often incorrectly attributed to these early twentieth century philosophers. I believe their concerns over the acquisition of knowledge have been misrepresented.

To try to explore criticism in isolation from content is to present a superficial understanding of critical thinking which will not lead to transfer across subject areas and into everyday life. When developing a critical approach to learning, it is essential that building content knowledge and critical thinking occur simultaneously. Otherwise, a danger arises, similar to that about which Dewey warned us in 1938, i.e. the learner will be viewed as a receptacle of transmitted knowledge rather than someone whose dispositions and skills are to be applied in assessing new information. Another problem may be that the learner acquires a variety of skills which can be practised in isolation but which are not integrated into the way he or she approaches a variety of issues. If an aim of education is, as I believe it to be, to have students apply critical thinking to their world both inside and outside the classroom, then educators need to be concerned about content. We need to ask about the significance of content when students engage in critical thinking. For example in Canada's Maritime provinces, a science teacher who attempts to have students to think critically about the scien-

tific names assigned to various types of salmon is unlikely to be met with the same level of eagerness as the teacher who encourages students to think critically about the depletion of fish in Atlantic waters and the impact on the fishing industry. Further, we must also ask what we are trying to achieve in both of these cases.

Since exploration of content and criticism are ideally tied together, it is important that schools assume responsibility for addressing issues of significance to students and the social and political contexts in which students live. We cannot assume that simply because we have modeled critical thinking with respect to the interpretation of a text, the conduct of a science experiment, or the solving of a math problem, students will miraculously become effective critical thinkers about other important issues in their lives.

Critical thinking, connections, and caring

The work of feminist theorists has, among many things, related the themes of "connections" and "caring" to the curriculum. Their work helps to build a framework for why one should consider both caring and connection when examining content and criticism. The emergence of these themes is evident in the works of women such as Nel Noddings (1988, 1984), Maxine Greene (1990), and Jane Roland Martin (1992). All suggest that we need to reorient both our thinking and our actions to ensure that connections and caring are nurtured and valued in the curriculum.

Connections, to Greene and Roland Martin, refer to a complexity of relationships which entail not separating mind from body, thought from action, reason from feeling, and self from others. Belenky, Clinchy, Goldberger, and Tarule (1986) express the new concern that the acquisition of new knowledge should occur in a humanly connected manner, one whereby the teacher is constantly trying to connect new learning with both the past histories of the students and their present interests and concerns. In addition, within a feminist framework, the view is often held that the child, the teacher and the curriculum need to be connected to the ethical, social and political worlds in which children live.

One of the positive outcomes of this work is that we are challenged to make connections and caring visible in education. In referring to critical thinking, Roland Martin (1992) suggests that it needs to be more than spectatorship or sport, and that the critical thinker needs to become connected to and to care about topics. Further, she believes that from a basis of care and connections the thinking will lead first to a response and then to action.

Roland Martin (1992) questions the need for the critical thinker to maintain distance from the object of study. She suggests that, to prepare the learner for a humane world, critical thinking needs to involve subjectivity

and feelings as well as analytical and rational abilities. Roland Martin voices concern that much of what happens in the name of critical thinking is too abstract, too technical, and too emotionally distant. She thinks that there is a need for care and passion rather than a cold, analytical application of reason. These are important questions, but it is a misrepresentation to suggest that critical thinking is always the result of dispassionate, detached analytical thinking. Can one not care about something yet remain objective, apply reason, and call ideas into question? Further, cannot one become so passionate and close to something that it is hard to engage in criticism? This raises the issue of respecting the need to be conscious of distance, the ability to look at problems closely in a manner which connects passion with reason, (but, from a distance), and, finally, the self-awareness to know when one is doing one or the other.

Roland Martin (1992) suggests that when one cares, when one observes problems such as those involving social, political and ethical issues, one will be moved to appropriate action. In these cases, action and thought are interwoven. If, after critical thought, one reaches a conclusion that action is necessary, it becomes the responsibility of the critical thinker to respond with action. However, it is important to remember that there can be critical thinking without action. Not all critical thinking leads to a conclusion that one necessarily needs to respond in an overt manner. Further, it is important to remember that there can be action without critical thought.

Thayer-Bacon (1992) argues a related point that beyond caring about learning, there needs to be care for other peoples' ideas. Caring and valuing others' ideas form the basis of the dialogical process, and are an important part of critical thinking.

CONCLUDING REMARKS

Critical thinking has been a stated goal of education for many years; yet the manner in which practitioners have attempted to encourage it has not always been driven by a sound, well conceptualized vision. In many cases, the roles and relationships of various forms and components of critical thinking (logical skills, the critical spirit, dialogical reasoning, criteria for assessment, content information including issues of a social and political nature) have not been articulated as a framework for interpreting methods.

In general, emphasis in the school context has been on methods for teaching critical thinking. As a result, there are countless workbooks, and numerous teacher in-service sessions which focus on fostering critical thinking skills within the curriculum. I believe that lack of knowledge regarding the nature of critical thinking does, among other things, inhibit a teacher's ability to foster the development of intellectual values such as sound reasoning, accuracy, and assessment of reasons as the students learn subject content.

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