

# AN INTEGRAL APPROACH TO INTERDISCIPLINARY RESEARCH IN EDUCATION

(Eğitimde Disiplinlerarası Çalışmalara Bütünleyici Yaklaşım)

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## Abstract

This is a theoretical paper on proposing a way to do interdisciplinary research in education. The main focus of the paper is the integral theory, which was formulated by the American philosopher Ken Wilber. In this paper, I aim to recapitulate Wilber's framework of Integral Methodological Pluralism (IMP) and discuss how it can be used in educational research to further the aims of interdisciplinary approaches. I will focus on how IMP can be applied to develop a better understanding of education as inquiry in the context of Philosophy for Children (P4C) and similar programs. Despite its international success P4C has come under sustained criticism from myriad positions, from both left and right of the political spectrum. I argue that in order to bolster the claims of P4C that it helps develop both inquiry as well as communication and collaboration skills and provide evidence for its utility in mainstream schooling, a multi-perspective approach to research is necessary. Wilber's integral approach to reality and research provides a suitable framework to this end. If we would like to do fruitful interdisciplinary research in education, we need to develop an integral frame of mind to tackle the complexities of educational phenomena. There is no doubt the field of educational research stands to benefit immensely from an interdisciplinary approach to research. Such an approach, however, is doomed to failure if it is not conceived in an integral way from the very beginning. An integral approach to research will dramatically enhance our understanding of educational phenomena and inform our own practice of teaching and learning.

**Key Words:** Integral theory, interdisciplinary research, philosophy for children, methodological pluralism

## Özet

Bu çalışma eğitimde disiplinlerarası araştırma yapma konusunda bir model sunmak üzere hazırlanmış kuramsal bir makaledir. Çalışmanın ana konusunu Amerikalı felsefeci Ken Wilber'in ortaya koyduğu "bütünleyici kuram (integral theory)" oluşturur. İlk Wilber'in bu kuram çerçevesinde geliştirdiği Bütünleyici Metodolojik Çoğulculuk (Integral Methodological Pluralism) yaklaşımı özetlenecek ve eğitimde disiplinlerarası yaklaşımlara nasıl bir katkı sağlayacağı tartışılacaktır. Daha sonra IMP'nin araştırma-sorgulama olarak eğitim konusunda geliştirilmiş Çocuklar için Felsefe (Philosophy for Children – P4C) ve benzeri programların daha iyi anlaşılması ve geliştirilmesine uygulama anlamında nasıl katkı sağlayabileceği incelenecektir. P4C ve benzeri programlar dünyanın pek çok ülkesinde etkili bir şekilde uygulanmış ve uluslararası bir başarı elde edilmiştir. Bununla beraber siyasi yelpazenin her iki ucundan da çok çeşitli eleştirilere maruz kalmıştır. Bu eleştirilere doyurucu karşılık verebilmek ve P4C'nin örgün eğitimde çocukların düşünme ve iletişim becerilerini geliştirdiği ve sosyal gelişimlerini desteklediğini su götürmez bir şekilde ortaya koyabilmek için çoklu-bakış açısını benimsemiş bir araştırma çerçevesine ihtiyaç duyulduğu savunulacaktır. Wilber'in gerçekliğe ve bu gerçekliğin araştırılmasına yönelik bütünleyici yaklaşımı tam da bu noktada devreye girmektedir. Eğitimde etkili ve sonuç veren disiplinlerarası çalışmalar yapabilmek için, son derece karmaşık ve çok boyutlu olan eğitim olgularını ele alırken en baştan itibaren yaklaşımımız bütünleyici bir anlayışa sahip olmalıdır. Hiç şüphesiz eğitim araştırmaları disiplinlerarası yaklaşımlardan büyük ölçüde faydalanacaktır. Unutulmaması gereken nokta bu tip yaklaşımların bütünleyici bir bakış açısıyla ele alındığı ölçüde başarılı sonuçlar vereceğidir. Araştırma sürecine bütünleyici bakış açısıyla yaklaşma eğitim olgularını derinlemesine anlama konusunda ve kendi öğrenme-öğretme edimlerimizi geliştirmesi açısından çok katkı sağlayacaktır.

**Anahtar Sözcükler:** Bütünleyici teori, disiplinlerarası araştırmalar, çocuklar için felsefe, metodolojik çoğulculuk

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## **Introduction**

In educational research, as in other fields, there is a plethora of methodologies each seeking in their own ways to provide enduring insights into myriad dimensions of human experience insofar as the context of teaching and learning is concerned. Phenomenology, ethnography, narrative studies, correlational research, hermeneutics, behavioral studies, collaborative inquiry, historical studies, causal analysis, experimental studies—the list goes on and on (Davis, 2008). Each methodology provides their own unique insights into the complexity of human experience in the context of education. However, while each methodology opens a distinctive window into human experience, their insights all remain partial. Developed by Ken Wilber, the *integral approach*, as a meta-theory, acknowledges the validity of each and every research methodology used in a given field of study—*everybody's right*—but also recognizes the inherent limitations of each. The integral approach aims to incorporate the insights of all the existing research methodologies in a given field in such a way that the resulting synthesis is not merely a hodgepodge of findings from different perspectives. Rather, the goal is to provide a framework whereby various research methodologies can communicate with each other in ways insights from all can be brought together in integrative ways so that new possibilities might be enacted.

The word integral means comprehensive, inclusive, non-marginalizing, embracing. Integral approaches to any field attempt to be exactly that: to include as many perspectives, styles, and methodologies as possible within a coherent view of the topic. In a certain sense, integral approaches are “meta-paradigms,” or ways to draw together an already existing number of separate paradigms into an interrelated network of approaches that are mutually enriching. (Wilber cited in Esbjörn-Hargens, 2009, p. 1)

The need to bring methodological plurality (or cacophony, some would say) in a given field into some sort of order in the form of “an interrelated network of approaches that are mutually enriching” goes hand in hand with the need to bring different disciplines together to address the increasing complexity of the major problems of our day. We face an overwhelming number of problems in the world today. We have ingenious ways to address these problems, but increasingly we are forced to seek solutions in more unified ways for it is obvious that no single perspective, framework, or system is capable of handling the scope of problems we face at present on their own. Despite the fact that we have a plethora of perspectives (approaches, methodologies, frameworks, paradigms, etc.) with the help of which we tackle these problems, they tend to be disconnected from each other.

But without a way of linking, leveraging, correlating, and aligning these perspectives, their contribution to the problems we face are largely lost or compromised. We are now part of a global community and we need a framework—global in vision yet also anchored in the minutiae of our daily lives—that can hold the variety of valid perspectives that have something to offer our individual efforts and collective solution building. (Esbjörn-Hargens, 2009, p. 1)

Ken Wilber's integral approach is a theoretical meta-framework that attempts to bring together as many seemingly incongruous perspectives as possible in meaningful ways. In this paper, I will use integral theory to explicate a model of doing interdisciplinary work in educational research guided by the framework of integral methodological pluralism (IMP). First, I shall provide a synopsis in broad strokes of the basic

principles of the integral theory in the context of the four-quadrants model. Subsequently, I shall draw attention to the framework of integral methodological pluralism (IMP). It is against this background that I will discuss how to carry out an integral research into the value of Philosophy for Children (P4C) and similar programmes for K-12 schooling.

### **Interdisciplinarity and the Quadrant Model of the Integral Theory**

Interdisciplinarity first and foremost requires an interdisciplinary frame of mind. Such a frame of mind, I argue, needs to be integral from the very beginning. In other words, it approaches to the question at hand from a holistic understanding. It does not try to force together disparate disciplines to form an interdisciplinary project. For instance, in the quotation below, the problem evidenced is not how to convince people from different disciplines that it is possible and worthy to learn from each other in an interdisciplinary project. Rather, the problem is lack of an integral approach to phenomena in the first place.

Some years ago, a colleague and I had a research project that combined *history* and *economics* to explain how and why elementary school teaching became a woman's occupation in the United States. Midway through the project, at a team meeting, his research assistants and mine both presented analyses. His students were excited. They had found several diaries, which they used to understand teachers' reasons for entering the profession. They brought the diaries to the meeting and handled them lovingly. But my students were dismissive. Trained as quantitative researchers who use large data sets, they felt the diaries were unreliable and biased sources, representative of only those teachers who happened to write the diaries.

Later in the meeting, the tables were turned. My students had large piles of computer output, complex statistical regressions on economic and educational data from several states. The history students argued that the quality of these nineteenth-century data was poor and said they didn't trust them. And besides, the regressions explained only 50 percent of the variance. Could you really think you'd explained something when half the explanation was still unknown?

My historian colleague and I explained (again) that by using both quantitative and qualitative methods we were developing a richer understanding of the feminization process, that while we agreed that both methodologies had flaws, each contributed something of value to solving the puzzle. It was a hard sell." (Strober, 2010, emphases added)

The issue here is not whether quantitative (associated with the discipline of economics in the case narrated by Strober) or qualitative (associated with the discipline of history) methodologies are more credible. Rather, the starting point should be the *event* (phenomenon/occasion/object) itself that is being inquired into—in Strober's case, the feminization of elementary school teaching in the US. The integral theory postulates that there are at least four primary perspectives one can enact to approach the event under consideration.

According to integral theory, there are at least four irreducible *perspectives* (subjective, intersubjective, objective, and interobjective) that must be consulted when attempting to fully understand any issue or aspect of reality. Thus, the quadrants express the simple recognition that everything can be viewed from two fundamental distinctions: 1) an inside and an outside

perspective and 2) from a singular and plural perspective. (Esbjörn-Hargens, 2009, p. 2, emphasis original)

Just to give a quick example to illustrate this quadrant model of reality: say we are trying to understand how and why textbooks are used in collegiate as well as pre-collegiate education and whether there is any merit in their continued use. To gain insight into this question (this phenomenon, this event, this object of inquiry), which is an aspect of reality—a dynamically unfolding event—we want to penetrate into more deeply, we can first look at how students and instructors as individuals experience the use of textbooks and the way they give meaning to this experience (inside-singular: subjective). Then, we can examine the role cultural beliefs, habits, and discourse communities play in determining the way textbooks are utilized in education and how meanings emerge through dialogical processes (inside-plural: intersubjective). The third perspective reveals how the textbook as a material object is constituted and the structure of its various components and their interrelationships (outside-singular: objective). Finally, the outside-plural perspective (the interobjective lens) discloses the impact of socio-economic material processes and structures (e.g. the textbook industry) in shaping the creation, distribution and dissemination of textbooks and their place within the overall system of education.

These four quadrants are not merely perspectives one can take on reality. They are the very dimensions of reality itself.

These dimensions are actual aspects of the world that are always present in each moment. For instance, all individuals (including animals) have some form of subjective experience and intentionality, or *interiors*, as well as various observable behaviors and physiological components, or *exteriors*. In addition, individuals are never just alone but are members of groups or collectives. The interiors of collectives are known generally as intersubjective cultural realities whereas their exteriors are known as ecological and social systems, which are characterized by interobjective dynamics. These four dimensions are represented by four basic pronouns: “I”, “we”, “it”, and “its.” Each pronoun represents one of the domains in the quadrant model: “I” represents the Upper Left (UL), “We” represents the Lower Left (LL), “It” represents the Upper Right (UR), and “Its” represents the Lower Right (LR) (see Fig. 1). (Esbjörn-Hargens, 2009, emphasis original)

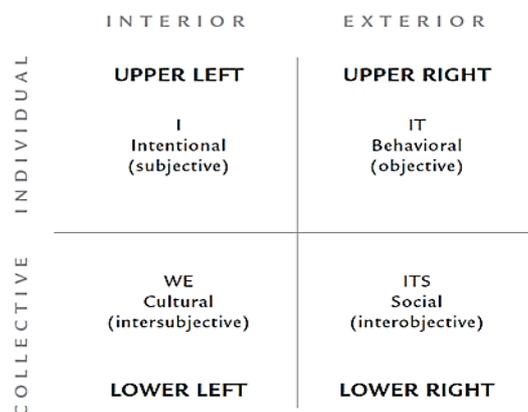


Figure 1. The four quadrants.

According to the integral theory, these four quadrants or spheres are irreducible to one another. They co-arise (tetra-arise) simultaneously, and reducing a quadrant to another without remainder is to distort it. For instance, trying to explain human consciousness “as anchored in neural systems, neurotransmitters, and organic brain mechanisms” (Wilber, 1997) and nothing else is to brush aside the irreducible interiority of upper and lower left quadrants. No doubt human consciousness has an exterior physical correlate: the brain and the neural system. This, however, does not mean that it is nothing but physical matter. Human consciousness is an event that can be looked into as brain physiology *and* first-person phenomenological lived experience *and* a cultural phenomenon *and* an evolving ecological system.

To understand how quadrants tetra-arise, I shall give another quick example. Assume you have the thought, “the practice of collaborative philosophical inquiry in schools is beneficial.” Having this thought is an event that has four dimensions, which co-arise simultaneously without collapsing into one or the other. Naturally, for the sake of analysis, we do differentiate and isolate these dimensions but in actuality they all co-occur and inform each other at the same time. The first dimension is that of the intentional subjectivity of the individual entertaining this thought. This is an interior affair (a matter of inner/psychological life and its peculiar structures and rhythms) and the question is how the *I* experiences this thought, which is not a free-floating propositional content hovering above the individual’s head. Rather, the thought is part of the individual’s life and s/he is invested in this thought, which has a place within the overall biography and the associated value system of the person. The thought is experienced in such a way that the individual is engaged in a purposeful activity with certain consequences in mind. In short, there is intentionality on the part of the individual entertaining this thought. At the same time, the physical dimension of this thought emerges as “the unique combination of neuronal activity, brain chemistry, and bodily states that accompany this thought” (Esbjörn-Hargens, 2009, p. 5). The thought is not disembodied. It has a body, a physical correlate. An entire neurophysical and hormonal apparatus is at work here. There is a very peculiar brain chemistry with its myriad neurotransmitters acting in specific ways on the body to make a unified sense of experience possible. The thought, the inner life, cannot be separated from its embodiment in the physical organism and its structures. The next dimension is that of the cultural context, the intersubjective domain, within which the biography of the individual is formed. Having a thought regarding the benefits of collaborative philosophical inquiry in schools does not arise out of the blue in the mind of an individual. The cultural context is one of the conditions of possibility, a horizon, that makes the thought coherent and meaningful. Such a thought is time- and place-bound and is only meaningful within a very specific discourse community. However, it should be pointed out that the cultural context is not readily visible the way physical objects are. Shared language and values of a discourse community are largely invisible to the physical eye. The cultural dimension is a matter of interiority. Finally, an interconnected system of social, economic, political, and legal institutions has to be in place for this thought to be meaningful. In other words, the thought is embedded within certain social and economic dynamics that form systems that make such thoughts possible. All four domains interact with each other simultaneously: they *tetra-mesh*.

The integral theory postulates that researchers approach the methodological plurality in their respective disciplines in an integral fashion. That is, study a given topic by addressing all four domains enacted through engaging various methodologies proper to each domain. This necessarily leads to interdisciplinary efforts to be framed in an integral fashion from the very beginning. Both disciplinary and interdisciplinary work are

rendered possible if the researcher herself has an integral frame of mind in place. The researcher is never an isolated individual having a private psychic life from a distance. Rather, she is an unfolding event herself with emergent qualities in all four dimensions of her reality. She can always gain new insight into her own existence as she takes different perspectives on different aspects of her awareness. Put differently, she has “access to experiential, behavioral, cultural, and social/systemic aspects of reality because these are actual dimensions of [her] own existence (Esbjörn-Hargens, 2009, p. 7). This suggests that to do interdisciplinary research, which, as I have noted above, requires an integral frame of mind from the start, the researcher herself has to cultivate an integral approach to her own existence and her own discipline. As one is engaged with their existence through the awareness made possible by these distinct and irreducible perspectives, one is more likely to experience the research phenomenon under consideration through these four ways of seeing.

### Integral Methodological Pluralism

Having established the basic foundation of the four-quadrants model, I will now focus on how this basic model can be advanced in order to organize research methodologies in an integral fashion. “The quadrants provide the basis for the eight perspectives, eight methodologies, and eight zones of Integral Methodological Pluralism” (Snow, 2007, p. 3).

Each of the perspectives associated with the four quadrants can be studied through two major methodological families, namely from either the inside (i.e., a first-person perspective) or the outside (i.e., a third-person perspective). This results in eight distinct *zones* of human inquiry and research. These eight zones comprise what integral theory calls *integral methodological pluralism* (IMP), which includes such approaches as phenomenology (an exploration of first-person subjective realities), ethnomethodology (an exploration of second-person intersubjective realities), and empiricism (an exploration of third-person empirical realities). Figure [2] includes all eight zones and their respective labels. (Esbjörn-Hargens, 2009, p. 16, emphases original)

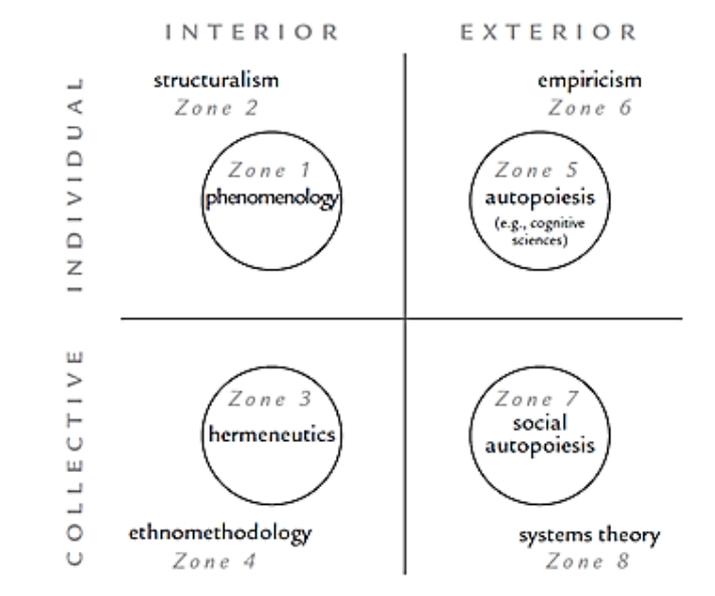


Figure 2. Eight Methodological Zones

When a researcher engages (or enacts) the phenomenal space of a particular zone, the phenomena of that zone are brought forth. A methodology, or mode of inquiry, proper to a given zone, with its respective perspective, when engaged, brings forth a phenomenal horizon within which the researcher can inquire into the aspects of reality thus revealed. For instance, the phenomenal space brought forth when the methodologies of zones 6 and 8 are engaged

is none other than the familiar three-dimensional, physical world of *Matter, Energy, Space, and Time* (MEST or Matter for short). The methodologies of these zones illuminate the outsides of exterior objects and are the only methodologies that bring forth material objective reality: simple location, material existence, spatial dimensions, material systems, empirical objects, sensorimotor objects, gross reality, the world of nature, energy fields, energy exchanges, physical forces, chemical forces, heat, light, gravity, atoms, molecules, cells, organisms, electromagnetic energy, spatial location, and temporal duration ... All of the phenomena of zones 6 and 8, whether individually or collectively considered, are apprehended in the form of materiality or MEST. Typical zone 6 [methodologies] are the empirical sciences: physics, chemistry, biology, physiology, neurology, ecology. Typical zone 8 methodologies focus on the material and objective aspects of collectives and systems such as astronomy, earth sciences, ecology, or economics, sociology, and political science.” (Snow, 2007, p. 11, emphases original)

To tackle the interior domains is somewhat more challenging. For instance, zones 1 and 3 are particularly difficult to handle, especially, if you are adamantly subscribed to positivist/hyper-rationalist models of scientific reasoning at the expense of softer humanities-oriented forms of science. Zones 1 and 3 have to do with consciousness as it is experienced from the inside of it. That is, consciousness as it is felt by a first-person subject. This phenomenal domain appears and is apprehended phenomenologically from the inside by the person experiencing the forms and states of consciousness. According to Wilber, and countless other researchers dedicated to the study of this domain, there is no way this realm can be captured merely by reference to physiological brain functions. There is an irreducible felt quality that is revealed when a subject is attuned to his/her stream of consciousness.

To give an example, consider *how students experience* transitioning from primary school to high school. Obviously, the movement from primary to secondary education is a time of upheaval for many students, and this period can be studied in terms of the “developmental changes including physical, cognitive, emotional and psychological changes” (Ganeson & Ehrich, 2009, p. 61) taking place in students of that age group. No matter how many studies are done to research the developmental needs of children, insights gained through inquiring into the *lived* experiences of the students themselves can never be replaced or reduced to developmental structures and processes. There is always the possibility of novel data emerging through uncovering students’ experiences that cannot be captured by the existing third-person perspectives. Phenomenological psychological research methodology, for instance, allows the subjects of a research study (in this case, the transitioning students) to describe their own experiences fully as they undergo and live through the experience in question (Ganeson & Ehrich, 2009).

Each zone discloses its respective phenomenal space, which is populated by objects peculiar to that space. The important point to be made here is that for any zone to reveal anything at all there has to be a subject enacting the zone by engaging in a set of actual practices or injunctions in the form of “if you want to know this, you must do this” (Wilber, 2003). In other words, phenomena are brought forth or enacted not on their own but by the social practices of social actors. If you want to see the moons of Jupiter, you have to look through the telescope and compare your findings with the people who have already done the same thing. Similarly, if you want to “see” how subatomic particles interact with each other, you have to master a high level of mathematics and use it to analyze the behavior of these particles in the company of people who are trained likewise. Again, if you want to see the organelles in a cell, you have to learn to dye a cell and track it under the microscope and consult other colleagues about what you see. In short, each zone reveals particular types of phenomena based on the practices taken up by the practitioners of that zone. This is what Wilber means by the word “paradigm.” Paradigm, in this sense, refers to social practices, behavioral injunctions, and experimental exemplars. “These social practices, injunctions, or exemplars ... generate, enact, bring forth, and illumine new type of experiences, occasions, data, phenomena” (Wilber, 2003, p. 2).

In integral theory, the goal is to engage in practices (paradigms/methodologies) to bring forth phenomena in all four dimensions of reality so that the event in question is revealed in its multiple aspects.

### **Integral Methodological Pluralism Applied To P4C**

In order to understand better why, for instance, the practice of collaborative philosophical inquiry in schools (P4C and similar programs) that focus on learning inquiry skills in the context of teaching philosophy as a subject area in mainstream schooling is valuable, a researcher is encouraged to look at the phenomenon under consideration from multiple perspectives using different methodologies. Since any one person cannot possibly master all the various methodologies available to men and women of science, studying a phenomenon from multiple perspectives in an integral framework is necessarily an interdisciplinary endeavor.

Philosophy for Children (P4C) program is an innovative educational practice that aims to use philosophy to help school children improve their ability to become more conscious of and make judgments about the aspects of their experience that have ethical, aesthetic, political, logical, or even metaphysical meaning (Gregory, 2011).

The aim of the programme is not to read the works of the great philosophers, viz. the programme is not about the study and practice of “academic philosophy” (although there might be room for that as well). Rather, the goal is to guide children to question and develop their own opinions about concepts such as rights, justice, violence, infinity, beauty, respect, friendship, liberty, number, self, equality, truth, and so on by reflecting on things and events they encounter in their own everyday experience to develop a more concrete and refined understanding of these topics on their own terms. (Oral, 2012)

It is claimed that P4C and similar programs improve student academic success as well as students' capacity to relate to matters of morality and ethics in deep and responsible manner (Oral, 2012). Such programmes foster skills in students to think critically, reflectively, and reasonably (Lipman, Sharp, & Oscanyan, 1980). Despite their international success, however, P4C and its cognates have attracted many

criticisms from a variety of directions “coming from religious and social conservatives, educational psychologists, critical theorists, postmodernists, and professional philosophers themselves” (Oral, 2012). As a researcher who is a firm believer in the value of P4C, the best way for me to address the criticisms fruitfully and in a non-partisan way is to look into the question of the value of P4C from within an integrative interdisciplinary framework to provide data from a variety of sources and methodologies to present a solid case in defence of P4C and its tributaries.

IMP provides one such framework. When inquiring into the question “why P4C works” and therefore should be supported, we can look at the upper left quadrant first and try to understand how learners and instructors make sense of the inquiry process. A phenomenological analysis (zone 1: the inside of an “I”) of the way learners/teachers make sense of the inquiry process will provide insight into the first-person experience of the value of P4C. Zone 2 (the outside of an “I”) is the space in which the question “what does your own subjective experience look like as an object when you look at your own private experience from a third-person perspective?” arises. Zone 2 methodologies enact and disclose the *structures* of an individual’s first-person experience and are described in it-terms. Methodologies formalized by structuralism and Piagetian constructivism are prime examples of this zone. The goal of inquiry in the upper left quadrant is *truthfulness* regarding the learner’s first-person subjective experiences and how they interpret it. The criterion for quality in this domain is *trustworthiness*.

The lower left quadrant is the space of We. Zone 3 enacts the “feel of a We.” It is the “direct felt-experience of second-person, intersubjective we-consciousness; it is the feeling of mutual understanding; it is the immediate feeling of solidarity and communion with others” (Snow, 2007, p. 24). P4C pedagogy is fundamentally a collaborative practice. Inquiring into how the “culture” of P4C is felt by individuals is extremely important in assessing the value of P4C. How individuals feel themselves as part of the hermeneutic circle of P4C group reveals novel data regarding the dynamics involved in the construction of meaning. No individual is isolated. “We” is always already constitutive of us as individuals. Groups have a constitutive role in the formation of individual thoughts, values, attitudes, habits, and identities. In this quadrant “[w]e want to know how individuals negotiate meaning and come to shared understandings of what is appropriate within a culture. From this intersubjective perspective, quality of inquiry is based on whether all voices within the culture have been fairly represented and that we have achieved a mutual understanding. Thus, the criteria for quality are fairness and authenticity” (Davis, 2008). In P4C, one measure of success is the extent to which each participant can join in the collaborative discussion in fruitful ways and the ability of individual participants to voice their ideas and concerns without fear of being ostracized. In such a learning environment, to the extent that each participant has ample opportunity to express themselves in a mutually encouraging and respectful setting, educative experience unfolds and develops that foster authentic expressions on the part of individual learners. Hermeneutics and collaborative inquiry methods are indispensable tools to reveal zone 3 dynamics to the participants themselves and contribute to mutual construction and reconstruction of meaning. Participants’ understanding of the group culture of which they are a part unveils dynamics that can otherwise be glossed over.

Alongside the “feel of a We” of zone 3, we can enact “the look of a We” in zone 4.

When we view mutual understanding from the outside, when we look at the mutually shared circles of understanding and meaning of zone #3, when we try to understand the it-structure of such circles of we-understanding, how those circles intersect, influence each other, conflict, and build into larger and larger circles—when we map culture from the outside, we are working in zone #4. Zone #4 sees We-qualia from the outside as collective mind; it is “the look of a We.” Zone #4 is the view of culture and intersubjectivity from the outside. Zone #4 is what cultural anthropologists study when they try to understand how a culture functions, how its practices, beliefs, language, values, morals, social institutions, and history contribute to the experiential lifeworld of its members. (Snow, 2007, p. 26)

The phenomenal space enacted and apprehended by ethnomethodology, cultural anthropology, semiotics, structuralism/post-structuralism, deconstruction, and the like “try to get at the structures of culture, language, and shared meanings and interpretations as described in objective terms” (Snow, 2007, p. 26). For instance, philosophy for children conceived as a dialogical participatory mechanism directs attention to existing power relations, mostly invisible, and how they can be acknowledged and addressed through cultivation of critical reflexivity (Barrow, 2010).

The upper right quadrant is the world of empirical/physical science and in the context of P4C we focus on the exteriors of an individual learner/teacher from the inside and outside. What is revealed from the inside and outside of a learner/teacher in this quadrant can be likened to the software and hardware components of an information processing system. To start with the hardware components, in zone 6, the way the brain and its neuronal apparatus function can be studied in a P4C setting. The focus is on material objects and their correlated mechanisms. Here we do not see thoughts, images, feelings, concepts, values, or meanings. Instead, we see brain waves, neuronal pathways, electro-chemical impulses, dopamine and serotonin levels, etc. The goal is to find out, for instance, whether learners experience higher levels of dopamine after a session of collaborative philosophical inquiry and see if there is an increase or decrease in neurocognitive functioning, viz. whether learning is taking place by looking at dopamine levels as an indication of increased (or decreased) neurocognitive activity. Another example would be looking at which parts of the brain light up in a functional MRI before and after a P4C session. Such a methodology would bring forth phenomena that could not be brought forth in any other way. That much seems uncontroversial. The value of such data in the context of P4C, however, is open to discussion.

In terms of the software components, that is, zone 5, we see “*the cognitive inside of a brain or organism, the first-person cognitive-biological software of the functioning organism*” (Snow, 2007, p. 31, emphasizes original)—the inside of an “it.” Although we use the analogy of software components of a computer, zone 5 has nothing to do with the feelings of a conscious subject (that would be zone 1—the inside of an “I”). Again, we are in an exterior space (an “it” space), but looking at this from the inside. “Thus zone #5 is the perspective of the organism’s cognitive knowledge process as it self-organizes, self-maintains, and self-reproduces itself in the act of self-existence” (Snow, 2007, p. 31). Cognitive biology, a field of research inspired by the work of two Chilean biologists Maturana and Varela, enacts the phenomenal space of zone 5 and aims “to reveal how the subjective organism represents, registers, processes, and responds to its

environment and others” (Snow, 2007, p. 32). In terms of P4C, I cannot see an immediate application of the methodologies of this zone. This illustrates that we do not have to enact every single zone in every case. The goal is to tap into as many perspectives as possible to the extent that they are appropriate to the question at hand. As is well known, the aim of inquiry in physical/empirical sciences (the upper and lower right quadrants) is explanation, prediction and control. And the criterion for quality of research in this domain is *reliability* and *validity*.

Finally, the lower right quadrant in which the focus is on “the behavior of individuals or objects within a system. We want to know how the system operates and how the individuals function within the system” (Davis, 2008). In the lower right quadrant, we are interested in the system first. This is the venerable realm of system sciences.

The basic idea of zone #8 is simple: the whole is more than the sum of parts. It doesn't mean the parts don't exist or are non-entities. Bertalanffy explains this by pointing out that in any collective or system there are constitutive characteristics that are not explainable from the characteristics of isolated parts. The constitutive characteristics of living systems, such as metabolism, cannot be found in the parts of living systems—at some point of complexity of organization, new properties *emerge* from the specific constitutive relationships that were not present in the parts. (Snow, 2007, p. 30)

In zone 8, the researcher looks at the practice of P4C within the larger whole of the school curriculum and how it fits within or disrupts this functional whole. We are interested in describing the behaviour of observable systems. The practice of P4C cannot be treated in isolation. It is part and parcel of the ecology of public schooling system. If we can ascertain the transferability of inquiry and social skills gained in a P4C context to other curriculum areas through the study of the impact of P4C within the system of the entire schooling process, then this would constitute further evidence in defence of P4C and similar programs. Such evidence cannot be brought forth in any other way. Furthermore, the issue of *emergence* is critical here. P4C is not merely a thinking skills program. Rather, it is a provocative practice that tends to disrupt the less than satisfactory equilibrium enjoyed by the conventional forms of schooling, and therefore potentially leads to engagements that bring forth novel methods and practices that cannot be foreseen ahead of time. The study of the materiality of the processes of P4C is also within the gambit of zone 8. The study of the interactions between the human and non-human worlds is noteworthy. For instance, the way the learners interact with the texts used in P4C curriculum, or the way the learners are arranged in a circle or semi-circle, the use of props to structure the discussions, etc. All of these relationships can be studied from a systems perspective: in short, the ecology of P4C practice.

The inside of the lower right quadrant is zone 7. As in zone 5 in the upper right quadrant (the inside of an “it”), zone 7 (the inside of “its”) is the domain of social autopoiesis, a term coined by the German sociologist Niklas Luhmann, according to whom society is constituted by the communicative actions of the individuals, and not individuals themselves. “For Luhmann, societal systems are not structural couplings of individuals. They are independent autopoietic systems constituted by communication ... Luhmann portrays society as a temporalized entity, that is, as a system whose events disappear from moment to moment, whose

only enduring structure is its constant self-reproduction in the autopoiesis of communication” (Bausch cited in Snow, 2007, p. 32). As far as P4C is concerned, the description of the information flows and communication pathways that maintain the organization of P4C sessions is worth looking into.

### **Conclusion**

In this paper I have explored the application of the integral approach to the interdisciplinary inquiry into the research question of how P4C and similar programs that aim to develop inquiry skills in K-12 learners can be bolstered against mounting criticisms by enacting eight primordial perspectives and their concomitant methodologies to bring forth phenomenal spaces to understand the complexity of the event of P4C sessions in ways that form a more encompassing picture of the event in question. In educational research, the framework of Integral Methodological Pluralism presents an opportunity to organize interdisciplinary work in such a way that the means to approach and enact reality that does justice to the complexity of the event under consideration are provided.

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