cover: picasso, las meninas (1957)

dossier "philosophy with children across boundaries"

exploring the application of empirical research in philosophy for children:
analysis of two case studies in caring thinking

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abstract

This study examines whether the effectiveness of the Philosophy for Children (P4C) program can be validated through empirical research. I begin by analyzing Matthew Lipman's pioneering empirical research from the 1970s, where he assessed improvements in critical thinking among elementary students who participated in his lessons using his philosophical novel. Next, I explore Lipman's rationale for integrating caring thinking with critical and creative thinking in the multidimensional approach to thinking, and I discuss the implications of caring thinking's emergence. I then analyze research trends in caring thinking through empirical studies conducted both in South Korea and internationally. Finally, I present two research cases I conducted—one quantitative and one qualitative—examining caring thinking as the central focus. I analyze the results in detail and discuss common implications found in both approaches, exploring how the limitations of each method might be complemented by the other. In conclusion, I argue that empirical research of caring thinking, conducted through complementary quantitative and qualitative approaches,

can demonstrate and reinforce P4C's philosophical goals.

investigación cuantitativa como la cualitativa, puede ser una forma de validar y fortalecer los objetivos filosóficos de Filosofía para Niños (FpN).

explorando la aplicación de la investigación empírica en la filosofía para niños: análisis de dos estudios de caso en el pensamiento cuidadoso

resumen
Este estudio explora si la eficacia de los programas de Filosofía para Niños (FpN) puede verificarse mediante la investigación empírica. En primer lugar, analizo la investigación empírica pionera realizada por Matthew Lipman en la década de 1970 para evaluar la mejora de las capacidades de pensamiento crítico de los niños de primaria que participaron en clases en las que se utilizaron sus novelas de filosofía. A continuación, exploro la base teórica de la integración del pensamiento crítico y creativo en el enfoque multidimensional del pensamiento propuesto por Lipman, en el que el pensamiento cuidadoso es un componente clave. Al hacerlo, analizo las implicaciones de la aparición del pensamiento cuidadoso. Después, examino las tendencias de la investigación empírica sobre el pensamiento cuidadoso realizada en Corea del Sur y en otros países. Por último, presento dos ejemplos de investigación (uno cuantitativo y otro cualitativo) cuyo tema central es el pensamiento cuidadoso. Analizo en detalle los resultados del estudio cualitativo y discuto si existen implicaciones comunes para llevar a cabo una investigación empírica sobre el pensamiento cuidadoso que puedan encontrarse tanto en los estudios cuantitativos como en los cualitativos, y si las limitaciones que deja uno pueden ser potencialmente compensadas por el otro. En conclusión, sostengo que la investigación empírica, llevada a cabo de una manera que complemente tanto la

explorando a aplicação da pesquisa empírica em filosofia para crianças: análise de dois estudos de caso sobre o pensamento cuidadoso

resumo
Este estudo explora se a eficácia dos programas de Filosofia para Crianças (FpC) pode ser verificada por meio de pesquisa empírica. Primeiramente, analiso a pesquisa empírica pioneira conduzida por Matthew Lipman na década de 1970 para avaliar o aprimoramento das habilidades de pensamento crítico de crianças do ensino fundamental que participaram de aulas usando seus romances de filosofia. Em seguida, exploro a base teórica para a integração do pensamento crítico e criativo na abordagem multidimensional do pensamento de Lipman, na qual o pensamento cuidadoso é um componente fundamental. Ao fazer isso, analiso as implicações do surgimento do pensamento cuidadoso. Na sequência, examino as tendências da pesquisa empírica sobre o pensamento cuidadoso na Coreia do Sul e em outros países. Por fim, apresento dois exemplos de pesquisa (uma quantitativa e outra qualitativa) cujo tema central é o pensamento cuidadoso. Analiso detalhadamente os resultados do estudo qualitativo e discuto se há implicações comuns para a realização de pesquisas empíricas sobre o pensamento cuidadoso que podem ser encontradas tanto em estudos quantitativos quanto qualitativos, e se as limitações deixadas por um podem ser potencialmente compensadas pelo outro. Para concluir, defendo que a pesquisa empírica, conduzida de forma a complementar a pesquisa quantitativa e qualitativa, pode

ser uma maneira de validar e fortalecer os objetivos filosóficos da Filosofia para Crianças (FpC).

palavras-chave: pensamento cuidadoso; pesquisa empírica; lipman; filosofia para crianças.

exploring the application of empirical research
in philosophy for children:
analysis of two case studies in caring thinking

introduction

It has been 20 years since Lipman published the second edition of *Thinking in Education*. In this book, Lipman endeavored to demonstrate the ideal model for thinking in education that he and his colleagues had been working on and developing for many years: the multidimensional thinking approach. The model of a multidimensional approach to thinking, which suggests a balanced development of critical, creative, and caring thinking, has epistemological features that are oriented toward reflective balance, and if it can be implemented in practice—through communities of inquiry—it can be actively used not only in philosophy but also in many other fields of education. Lipman (2003) also foresaw this: he pointed out that "we are so transfixed by the implications of the rise of the computer and its impact upon contemporary society" (p. 199) and emphasized that all revolutions take place in human thinking, regardless of their consequences. By "people's thinking," he meant an approach that does not prioritize pure logic above all else and one that does not adopt a hierarchical stance, elevating the general and abstract over individual particularities (p. 201). In this context, Lipman's proposition of the multidimensional thinking approach and his advocacy for caring thinking as the final component of thought processes hold considerable significance, making them deserve recognition as an "event" in the realm of philosophy for children (P4C).

Chronologically, in 1994, three years after publishing the first edition of *Thinking in Education*, Lipman began to advocate the concept of "caring thinking" and proposed that it be viewed as a third aspect of higher-order thinking. This shift was in response to criticism that most critical thinking theorists at the time had overemphasized the development of reasoning skills and rationality and overlooked the most important fact that critical thinking is also about human ideas. At that time, Lipman proposed the four value-principles of caring thinking:

valuational, affective, active, and normative thinking[1]. Here, Lipman pointed out the importance of fostering thinking about the sense of judgment itself and thus began to apply the concept of caring to a set of thought processes and forms of thinking about, focusing attention on, and judging the value of something. This is because "caring" as a mental action is closely related to "focus on that which we respect, to appreciate its worth, to value its value" (Lipman, 2003, p. 262). Lipman's point was to emphasize the acquisition of cognitively new dispositions through the coordination and harmonization of the elements that make up mental movement, and to link this to a community of inquiry, in which human thought seeks to expand its understanding.

The challenge for those of us who study P4C is to show that Lipman's ideas are meaningful in the context of education. While it is very necessary to continue to elaborate on the concepts in P4C and to reconceptualize or redefine them, it is also necessary to show how the concepts that Lipman proposed—or later researchers redefined—are educable in concrete contexts and that such education is a meaningful endeavor. In this paper, I propose the following research questions, which I discuss in this order:

1) What empirical work has been done by Lipman to demonstrate the effectiveness of critical thinking, and what challenges does this raise?

2) Why did Lipman advocate for caring thinking as part of the development of the multidimensional thinking approach?

3) What are the current research trends on caring thinking in South Korea and other countries?

4) Are there any research cases that can verify the effectiveness or impact of caring thinking, and if so, what are the issues that remain from such work?

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[1] In 1994, Lipman first presented the concept of caring thinking at the 6th International Conference on Thinking. His presentation was discussed by Jan Brunt two years later. In Brunt's 1996 article, Brunt examined the possibility of applying Lipman's concept of caring thinking to gifted education methodologies and the specific features of caring thinking for those who exhibit above-average sensitivity or excitability on a psychological level.

lipman's empirical research on critical thinking: early studies and findings

In 1969, Lipman applied for a funding grant from the National Endowment for the Humanities to develop a program to teach logic to children. The grant was approved, and in 1970 he began writing a book, *Harry Stottlemeier's Discovery*. Based on his book, Lipman taught logic and reasoning himself to fifth graders at the Rand School in Montclair, New Jersey, and conducted research on whether it was possible and meaningful to do so. Although he wrote the philosophical novel and developed the curriculum, Lipman collaborated with people from a variety of disciplines to teach the lessons and design and conduct the experiments. To begin, he designed the framework for his educational experiments with Milton Bierman, the Director of Pupil Services of the Montclair school system. Bierman used randomization to create two groups of 20 children each. Lipman's class—it was called Dr. Lipman's class—would meet twice a week for nine weeks, for a total of 18 sessions. He had two assistants, Jerry Jaffe and Jim Harte, and the class was taught by Lipman himself. The researchers administered logic and reasoning tests before the beginning of the first session and after ending the whole nine-week program. The test was the "California Test of Mental Maturity (1963 Revision Long Form)," from which four specific test sections were excerpted and used. The four sections were: inferences, opposites, analogies, and similarities.

Before starting the 18 lessons, both groups scored above average, and there was no significant difference between them. In a test conducted nine weeks later, the pilot study group showed a significant improvement over the control group (Lipman, 1973, pp. 20–21). According to Bierman's (1976) analysis report that accompanied Lipman's paper, the null hypothesis that Bierman formulated at the time was this: "students who are taught logic will score equal to or lower on the test than students not so taught" (p. 24). As a result of the study, the calculated t-value for comparing the treatment means was 2.8. The critical t-value for a one-sided test at a 0.01 significance level with 13 degrees of freedom was 2.650 (p. 26). Since the calculated t-value was higher than the values shown in the table, it was concluded that the null hypothesis could be rejected. Furthermore, the California Mental Maturity Posttest showed that the computed mental ages of the pilot study group were 167 months, while the mental ages of the control group were 140 months. Notably, the pilot study group increased their post-test age by 27

months compared to their pre-test age, while the control group showed no significant progress from their initial test scores.

In summary, Lipman's work empirically demonstrated that using philosophical novels and philosophical dialogues to teach can improve students' logical reasoning skills. This was a concrete demonstration of the effectiveness of a non-traditional method of knowledge transfer—namely, philosophical inquiry without drills—using a sophisticated experimental design and statistical validation. This highlights the need for the field of P4C to demonstrate its value through empirical approaches.

caring thinking: core component of multidimensional thinking

Since the middle of the 1970s, Lipman has collaborated with Ann Margaret Sharp, a fellow researcher and educator who co-directed the Institute for the Advancement of Philosophy for Children (IAPC), on P4C research. In their 1975 published study, Lipman and Sharp (1975) proposed the prerequisites for fostering philosophical thinking, which at the time was "avoidance of indoctrination, respect for children's opinions and evocation of children's trust" (p. 6). They emphasized that all three of these conditions were essential, and posited that children possess distinct perspectives regarding what matters, and that they required opportunities to contemplate their own ideas thoroughly and consequently develop and articulate their unique worldviews. Within this framework, Lipman and Sharp suggested that "discovering comprehensiveness" was a crucial function P4C should undertake (p. 19). According to them, individuals require more than scattered notions or perspectives on various topics; because individuals seek a cohesive framework of interconnected principles and ideals that forms a unified philosophy to consistently guide their decisions. Lipman and Sharp's ideas have led to the belief that P4C can make a meaningful contribution by providing an education that helps people develop into individuals who can realize the democratic ideal of a good life. Based on this premise, they established specific research directions for P4C. The roles they emphasized for P4C included: "they[children] learn to think for themselves, that they are trained to read the cues and signs of other people's interests in situations in which they are

involved, and that they become aware of their own emotional needs" (Lipman & Sharp, 1978, pp. 344–345).

Therefore, I contend that Lipman and Sharp were already cognizant of the inseparable relationship between thinking and emotion from the late 1970s, and they possessed a distinct vision regarding P4C's future direction. Evidence supporting this claim is the analogy of a coin and a paperback book presented by Lipman and Sharp (1978, p. 349). First, a coin constitutes a small round metallic object from the perspective of perceptual observation. However, this represents merely a factual description. In reality, when examining a coin, we perceive it simultaneously as a copper fragment while immediately recognizing its economic value. Second, envision yourself reading a specific page of a book or paper. The individual engaging with text is not simply staring at a page, but is formulating various value judgments throughout the reading process. Through these illustrations, Lipman and Sharp (1978) asserted that facts and values should not be isolated or separated, but rather considered concurrently, and that P4C should facilitate this integrated approach. Consequently, they proposed that P4C should nurture children's "impulse to rationality, their natural love of meaning, their desire for understanding, their feeling for wholeness, and their passion for investigating the endless byways of their own consciousness" (p. 365). Through this analysis, I emphasize that Lipman and Sharp did not focus exclusively on developing children's thinking skills, characterized purely by logical thinking and reasoning, as P4C's main objective. A few years later, as director of the IAPC, Lipman (1987) diagnosed public education in the United States as being caught between two false paths, indoctrination or relativism (p. 140). Lipman pointed out that if education merely serves the function of transmitting knowledge, it is no different from indoctrination; at the same time, he recognized that asking open-ended questions and concluding that "everything is relative" is also far from correct education. Therefore, to resolve this dilemma, he argued that we need to believe that everyone, including children, is capable of reasoning, and we need to put in place methods, procedures, and systems that make this possible. Lipman suggested two challenges for P4C. The first challenge was to have a concrete discussion about what tools can be used to cultivate reasoning skills. The second task was to discuss how to bring about the realization that, like a skilled

craftsman, we must love and care for the tools, methods, and procedures utilized in reasoning, which is still the primary task of P4C (p. 146). Despite this "discovery," it was not until 1994 that Lipman began to characterize caring as a kind of cognitive wholeness, or "caring thinking." The first four aspects of caring that Lipman identified were valuational thinking, affective thinking, active thinking, and normative thinking. The list was revised in 1995 and then formalized in 2003 to include five criteria (table 1)[2].

Table 1. value-principles and standards of caring thinking

value-principles	empathic thinking	appreciative thinking	affective thinking	normative thinking	active thinking
	considerate	prizing	liking	requiring	organizing
	compassionate	valuing	loving	obliging	participating
	curatorial	celebrating	fostering	compelling	managing
standards	nurturant	cherishing	honoring	appropriate	executing
	sympathetic	admiring	reconciling	enforcing	building
	solicitous	respecting	friendly	demanding	contributing
	mindful	preserving	encouraging	expectant	performing
	serious	praising			saving
	imaginative				

Source: Lipman, 2003, p. 271.

1) empathic thinking: Lipman (2003) defines "empathy" as putting oneself in another person's situation and experiencing their emotions as if they were one's own (p. 269). Thus, Lipman argues that being able to step back from one's own emotions, perspectives, and views and imagine the emotions, perspectives, and views of others is an important function of empathic thinking. This is why using one's imagination is a part of empathic thinking.

2) appreciative thinking: Appreciative thinking occurs when we perceive, encounter, or experience something and try to form an intrinsic relationship with it, discovering differences and commonalities in the

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[2] For reference, in 1995, Lipman provided the following criteria as standard examples of thinking associated with "thinking about values": respectful thinking, appreciative thinking, admiring thinking, considerate thinking, cherishing thinking, compassionate thinking, and concerned thinking.

process. For instance, a lake is neither better nor worse than the ocean, and a hill is neither better nor worse than a mountain, so we can experience them only relationally, capturing them in a specific context. This process activates appreciative thinking.

3) affective thinking: The word "affective" is used here to refer to the basic position that emotions are a type of thinking. For example, when a person witnesses an innocent child being abused and becomes outraged, this reaction already includes the recognition that it is wrong to abuse an innocent person and the recognition that it is justified to be outraged by seeing something wrong being done. This is an example of affective thinking in action and expression.

4) normative thinking: Because many of the values that individuals hold is not always desirable for everyone, at all times, or in all situations, it is necessary to reflect on the values that we hold based on caring thinking. The reflective inquiry that normative thinking fosters allows us to ask and answer questions about the kind of human beings we want to be and the kind of human beings we ought to be. In other words, normative thinking allows people to consider both the world they want to live in and the world they ought to want to live in (Lipman, 2003, p. 269).

5) active thinking: In discussing the features of active thinking, Lipman (2003) distinguishes between "caring for" and "caring about." First, "caring for" means having an affectionate emotion and valuing something, which is connected to affective thinking (p. 267). This is why affective thinking includes liking and loving. On the other hand, "caring about" involves the act of caring about something and taking an active interest in it. Therefore, "caring about" belongs to active thinking.

After Lipman's formalization of caring thinking as a philosophical concept, it has been continuously evaluated and studied. First, Sharp, who maintained a scholarly relationship with Lipman for an extended period, also emphasized additional dimensions of the concept of caring thinking. Fundamentally, Lipman and Sharp shared identical premises regarding the advocacy of caring thinking. As

Tibaldeo (2023) noted, they shared the hypothesis that "the practical orientation and attention to the context of thinking was ultimately devoid of meaning had it not been complemented by a reference to values" (p. 52). Specifically, Sharp underscored that the intrinsic value of P4C could be identified in the process of humans establishing relationships with one another and investigating collaboratively within a community of inquiry, thus she maintained a supplementary perspective that care was essential to enhance participation possibilities within a community of inquiry. In my opinion, Sharp's viewpoint was already articulated in 1991, when Lipman published the first edition of Thinking in Education, as follows:

> care presupposes the disposition to be open, to be capable of changing one's views and priorities in order to care for the other. … In a real sense to care presupposes a willingness to be transformed by the other —to be affected by the other. This care is essential for dialogue. … Care, then, makes possible a conception of the world as a play in which one can shape outcomes and create beauty where none has existed before. (Sharp, 1991, p. 32)

Subsequently, Sharp (2004) characterized caring thinking as "reveals our ideals as well as what we think is valuable, and what we are willing to fight and suffer for" (p. 209). She believed that it is necessary to consider how Lipman's caring thinking affects caring practice and contended that caring thinking pertains not solely to metaphysics but also to descriptive epistemology in this context. Consequently, Sharp delineated the following two additional dimensions of caring thinking: The first was the "ontic dimension." Sharp referenced the work of Robert Solomon (1983) and Martha Nussbaum (1990), supporting the proposition that what humans attend to and concentrate on constitutes both an emotion and a cognitive judgment. Sharp's view of caring thinking is also parallel to that of Tim Sprod (2001). Sprod, a proponent of Lipman's multidimensional thinking approach, reviewed the concept of caring in terms of its relevance to philosophy and moral education. Sprod (2001) embraced Lipman's concept of caring thinking and called it the "committed aspect" of thinking, emphasizing that thinking and emotions are not separate: "The emotions underpin desires, values and commitments providing the motivation to link judgement to action" (p. 18). Returning to Sharp's discourse, she thought that the ontic dimension of caring thinking could also be connected to Martin Heidegger's concept of Sorge. She argued that if we cease to care about anything, we will lose our "sense of self,"

which signifies a dissolution of our connection with the world and other beings (Sharp, 2004, p. 211). Next, regarding the second dimension of care that Sharp presented, it was intentionality. To elucidate this, Sharp introduced some notions of intentionality presented by Rollo May (1969) in *Love and Will* and supplemented these with her perspectives. Intentionality, according to Sharp (2004), constitutes "the bridge between us and the object itself" (p. 212). Through this, Sharp proposed that the dichotomy between subject and object could dissolve through intentionality. In other words, intentionality is not simply the subject orienting the object, but rather the way in which meaning is constructed in relation to the world. Ultimately, where this dichotomy disappears through intentionality, an open field is created that generates meaning and value through our experience and context. Sharp identified this as another essential aspect of caring thinking. In conclusion, the caring thinking that Sharp emphasized was an important deeper dimension that enabled humans and beings to address emptiness and meaninglessness.

Further research by other scholars on the concept of caring thinking is also noteworthy. Oscar Brenifier (2008) noted that among the main functions that caring thinking fulfills was its significant contribution to what we care about and how we make choices or decisions (p. 10). Mehmet Ali Dombaycı et al. (2011) conducted a study that reinterpreted Lipman's multidimensional thinking approach, and they saw caring thinking as a "formula" and "lever" to bring critical and creative thinking together (p. 554). These researchers shared the view that caring thinking establishes an inextricable link between emotion and thinking, and that it challenges the idea that emotion is simply a driver of thinking or that rational thought is superior to emotion. They also recognized that the characteristics implicit in caring thinking can support the interconnectedness and continuity of emotion, cognition, judgment, and action. They especially appreciated that caring thinking is value-giving, relational thinking.

In my opinion, Richard E. Morehouse (2018) and Tibaldeo (2023) shared connections with Dombaycı and his colleagues' perspective regarding the interpretation of the origin of the concept of caring thinking in the theoretical aspect, its function within multidimensional thinking, and its importance in thinking. Morehouse (2018) supported Sharp's perspective, emphasizing that the value-oriented nature, which is characterized by caring thinking, can dissolve the

dichotomous boundary that artificially separates subject and object (p. 199). By eliminating this rigid distinction, caring thinking fosters a more interconnected and holistic cognitive approach. This integrative perspective creates conditions for critical and creative thinking to overlap, rather than remain separate modes of thought. Therefore, Morehouse interpreted caring thinking as the concept that enables the intersection of critical thinking and creative thinking in a community of inquiry and that encompasses both dimensions. According to this interpretation, caring, which has been developed through caring thinking, can function as both a method and a goal of the community of inquiry (pp. 202–203). Tibaldeo pointed out that Lipman's distinction between critical and creative thinking in his early theory was only for the purpose of explanation. This is because, according to Tibaldeo (2023), critical and creative thinking are in fact, "facets of the single phenomenon of thinking" (p. 51). Then, according to Tibaldeo's analysis of caring thinking, Lipman regarded emotions as "forms of cognition capable of orienting judgements, choices, and decisions," and Sharp focused on the relationship between "perception and emotions" in terms of educational practice (p. 58). I support Tebaldo's analysis and believe that the uniqueness of caring thinking comes from elevating cognition, thinking, and judgment to a level where they can be implemented in practice. And I contend this should be manifested in active thinking, which constitutes one of the criteria of caring thinking. Caring thinking, through its active characteristic, bridges the gap between cognitive processes and their implementation. Caring thinking infuses thought with value commitments that motivate action. When caring thinking functions alongside critical and creative thinking, it does not merely add a third parallel element but introduces a motivational depth dimension that animates and contextualizes the other modes. This three-dimensional reconstruction emerges because caring thinking provides the value orientation that determines which critical evaluations and creative possibilities merit actualization, thereby serving as the connective mechanism that transforms isolated cognitive capacities into an integrated, action-oriented framework. Here, I quote Sharp's expression of caring thinking, which Tibaldeo (2023) emphasized. That was, caring thinking possesses an "anthropological pre-eminence and a more encompassing" characteristic, within a multidimensional approach to thinking (p. 57). And now, at a time when

global ethical consciousness is more in demand than ever, I argue that P4C must amplify its message by highlighting the significance of caring thinking to bridge the gap between thinking and taking action.

research trends in caring thinking: analysis of Korean research

As I mentioned in the previous passage, Lipman pointed out that public education is torn between two paths: indoctrination or relativism. In South Korea, I think the former problem emerged in the 1990s. First, Korea is still a highly competitive country in terms of college entrance exams, and as a result, public education has been considered a means of knowledge transmission, with a hierarchical relationship between teachers and students. In schools, students tend to believe that they should succeed by being winners in the competition rather than asking, "what is good thinking?" or "what value do I have?" On the other hand, the latter, relativism, has been on the rise in South Korea since the 2000s with the implementation of student-oriented education that respects students' opinions and individual learning pace. In this situation, public education in South Korea has come to encompass the dual task of emphasizing critical thinking, creativity, and autonomy while fostering an attitude of value and respect for other people and cultures. As a result, there is currently a very high level of focus on caring thinking in South Korea.

Research on caring thinking in South Korea began in 2004, coinciding with the publication of the second edition of *Thinking in Education* in 2003 and its translation into Korean in 2005. I searched academic research papers that included the topic phrase "caring thinking" in their titles and charted the results (appendix). Since 2004, research articles conducted and published in South Korea focusing on Lipman's "caring thinking" have totaled 29, with 21 studies involving preschool learners. Of the remaining eight papers, one focused on elementary school students and another on middle school students. Of the remaining six papers, two were studies of teachers' caring thinking, two focused on the relationship between teachers and learners, and the last two analyzed children's literature and attempted to identify caring thinking in it.

An analysis of the 29 studies reveals two significant commonalities in their research approaches that warrant deeper examination. First, the universal reliance

on Lipman's theoretical framework of caring thinking demonstrates the field's strong theoretical foundation. Every study either directly cites Lipman's caring thinking theory or uses assessment tools derived from his framework of five value-principles. Most of the papers describe research methodologies that developed survey questions based on Lipman's five value principles of caring thinking and their sub-criteria, which were then applied to the research subjects. Most of the studies conducted in South Korea on the topic of caring thinking have tended to use Lipman's criteria for assessing caring thinking "as is" to create questionnaires and conduct tests. I think this phenomenon reflects the meritocracy that has been formed during South Korea's rapid growth, which has also influenced the education field: the belief that education should make a tangible difference in its students, that it should be verified, and that this difference should be represented as usefulness to society. However, I think researchers should first reflect on the question, "what is usefulness?" If usefulness is unconditionally defined as a measurable performance or outcome, there is a risk that we will lose sight of the real goals of education and overlook the holistic development of students. Especially, there is a perception that concepts such as caring thinking are difficult to assess with simple quantitative metrics. Therefore, it may be necessary to redefine the concept of usefulness more broadly and deeply. This should start with recognizing that education is not just about producing outputs but also about helping students reflect on their roles and values in a social context. Second, these studies employed empirical and quantitative methodologies to measure caring thinking. Most studies utilized some form of quantitative assessment, whether through observation scales, standardized tests, or questionnaires. For example, studies examining program effectiveness consistently used pre/post-test designs with control groups, applying statistical analyses such as t-tests or regression analysis. Even when examining complex interventions like philosophical inquiry communities, six thinking hats activities, or multicultural education programs, the assessment of caring thinking is primarily conducted through quantitative measures. This methodological choice, while providing metrics for comparison, raises questions about whether such complex philosophical concepts can be adequately captured through quantitative measures alone.

This analysis led to two further lines of inquiry. The first examines empirical research on caring thinking conducted otherwise South Korea, investigating whether similar research trends exist in other countries. The second is to present actual and specific research examples and findings from two studies I have conducted on caring thinking, one using a quantitative approach and the other a qualitative approach. The following will present these two lines of studies in detail.

research trends in caring thinking: examples of international research

To investigate potential correlations between Korean and international empirical research trends in caring thinking, a literature review was conducted using Google Scholar. From the available studies, four English-language articles were selected for comprehensive analysis of both abstracts and full texts[3].

A notable example emerges from Türkiye, where Mehmet Ali Dombaycı et al. (2011) emphasized the transformative nature of caring thinking, asserting that: "Caring thinking is the philosophical verification of critical thinking while it is the philosophical justification of critical thinking. Therefore, philosophical weight of caring thinking is higher than that of critical and creative thinking" (p. 554). Since 2011, researchers in Türkiye have produced two additional significant studies on caring thinking. Dombaycı (2014) explored the pedagogical applications of Lipman's caring thinking framework in environmental ethics education. Using three children's literary works -Shel Silverstein's *The Giving Tree*, Dr. Seuss's *The Lorax*, and Virginia Lee Burton's *The Little House*- Dombaycı developed a framework of philosophical inquiry questions examining the intersection of caring thinking and environmental ethics. Subsequently, Ufuk Uluçınar and Asım Arı (2019) developed a comprehensive caring thinking inventory, constructing 20 problem scenarios with five response options each, yielding a 100-item assessment

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[3] During this process, I came across several significant Arabic-language papers from Iranian researchers examining caring thinking, each providing English abstracts. Monire Ābedi and colleagues (2018) investigated the correlation between caring thinking and emotional intelligence (EQ). Mahboobeh Tavakoli et al. (2022) applied Lipman's five criteria of caring thinking to analyze meditative thinking in the Quranic narrative of Moses and Khezr. Subsequently, Ali Hammoud Abdel Zahra and Ali Hussein Al-Mamouri (2023) employed Lipman's criteria and Cronbach's Alpha methodology to assess caring attitudes among university lecturers. Most recently, Tahere Shefaee et al. (2024) conducted an empirical study in Tehran, Iran, examining the impact of caring thinking instruction on the well-being of 120 sixth-grade students.

instrument for student self-evaluation of caring thinking. Their research identified several limitations in Lipman's conceptualization of caring: "Beyond the definition, and dimensional characteristics of caring thinking that Lipman conceptualized, there is little information, and explanations about what the connections between caring thinking and affective structures are. It is obscure which he/she employs affective structures while an individual thinks caringly" (p. 1416). Furthermore, they identified a significant methodological gap: while numerous assessment tools exist for critical and creative thinking, empirical instruments for measuring caring thinking remain scarce (p. 1416). To address this limitation, they developed a caring thinking inventory utilizing the affective domain taxonomy established by David R. Krathwohl, Benjamin S. Bloom and Bertram B. Masia in 1964 as a framework. The researchers presented a representative scenario involving Emrah, a teacher who, contrary to familial opposition, accepted a position in rural town Banaz (pp. 1417–1418). Upon arrival, Emrah encounters severely deteriorated school facilities. This scenario was presented to 184 middle school students to assess their emotional judgment and proposed actions. The researchers analyzed responses to formulate behavioral possibilities, coding them into five levels according to the affective domain taxonomy. This methodology informed the development of 20 comprehensive scenarios, each aligned with Lipman's five criteria of caring thinking: empathic, appreciative, affective, normative and active thinking (p. 1428).

Meanwhile, Mahboubeh Asgari et al. (2023) studied the relationship between P4C and Social and Emotional Competencies (SECs). They conducted philosophy inquiry sessions with middle school students using the P4C method of dialog and the community of inquiry developed by Lipman and Ann Margaret Sharp. Over the course of eight weeks (45-minute sessions twice a week), middle school students experienced "philosophical exercises, discussion plans, activities, and reflective journal writing" (Asgari et al., 2023, p. 31) and engaged in meta-reflections on their experiences. To evaluate social-emotional impacts, the researchers implemented a randomized controlled trial with 233 students: 124 in the intervention group and 109 in the comparison group. Assessment utilized pre- and post-test questionnaires for students, complemented by teacher behavioral observations. The researchers operationalized emotional influence through specific

constructs including empathy, perspective-taking, and altruism, collectively termed "prosociality" (p. 34). The measurement instruments included Mark H. Davis's Interpersonal Reactivity Index (1983), modified versions of Kimberly A. Schonert-Reichl and colleagues' Empathic Concern scale (2012) and Perspective-Taking subscale (2012), and the Developmental Studies Center's Altruistic Behavior Questionnaire (2005). When researchers analyzed the survey, they found, surprisingly, "after controlling for gender, age, and baseline scores, there were no significant differences between P4C and control students' reports of empathy, perspective-taking, or altruism at posttest" (Asgari et al., 2023, p. 36). In reflecting on the limitations of the study, the researchers noted that dealing with affective change is a "highly complex phenomenon" and that "additional qualitative data" is needed for future research (p. 37). If further research were to be conducted, they suggested focus groups or in-depth interviews with students (p. 41). A notable characteristic of this research lies in its methodological approach: while employing P4C pedagogically, the assessment instruments were drawn from traditional psychological and pedagogical frameworks. Although this appears methodologically sound, I believe that Lipman's distinctive cognitive conceptualization of emotional components in thinking suggests potential limitations in utilizing traditional emotional response questionnaires, particularly for assessing caring thinking. I think this methodological tension warrants further examination.

The final empirical research paper I reviewed was published by Konstantinos Stoupathis (2023), examining the application of Lipman's caring thinking framework to museum education and conservation practices. Stoupathis introduced Lipman's five evaluative standards for caring thinking, illustrating their application through museum conservation examples[4]. He pointed out that the active thought of evaluating the effectiveness of conservation before deciding to preserve something is like answering the question, "what world would we like to live in?" (p. 61). Using the Industrial Gas Museum in Athens as a case study, Stoupathis analyzed conservators' ethical dilemmas through Lipman's five caring criteria" (p. 63).

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[4] In discussing appreciative thinking characteristics of caring thinking, Lipman (2003, p. 265) specifically referenced the curator example.

The four studies share two key commonalities: methodological diversity in empirical assessment and application of Lipman's five criteria for caring thinking. First, four studies conducted systematic empirical assessments of caring thinking. International research on caring thinking demonstrates methodological diversity in empirical approaches, reflecting a maturation of the field. The four major studies exemplify this methodological expansion: Dombaycı's analytical framework using children's literature, Uluçınar and Arı's development of a quantitative inventory with 100 items, Asgari and colleagues randomized controlled trial utilizing standardized psychological measures and Stoupathis's case study of museum conservation. A notable trend emerges in the increasing sophistication of assessment tools. This methodological evolution addresses a critical gap identified in the literature: the scarcity of empirical instruments for measuring caring thinking, especially compared to tools available for critical and creative thinking assessment. However, this trend also raises important questions about measurement validity, particularly regarding the compatibility of traditional psychological measures with Lipman's philosophical framework. Secondly, each of the four international studies explicitly employed Lipman's five criteria for caring thinking though applying them to distinct domains. Dombaycı utilized the framework to develop philosophical inquiry questions linking environmental ethics to caring thinking standards. Uluçınar and Arı structured their 100-item assessment instrument around these five components, creating scenarios that specifically target each criterion. Asgari and colleagues, while incorporating additional psychological measures, grounded their intervention design in Lipman's criteria. Stoupathis directly applied the five standards to museum conservation practices.

empirical studies of caring thinking: two case analyses

In the following section, I will discuss two studies that I have conducted to illustrate how empirical research using the concept of caring thinking can be performed in educational practice. The first is the quantitative study that tested the effectiveness of philosophy programs for elementary school students by incorporating caring thinking into ecological education. The second is the qualitative study that analyzed students' inquiry questions and dialogues

following a community of inquiry lessons with elementary school students using *Nous*, one of Lipman's novels published by the IAPC. From these two examples, I will draw conclusions about how empirical research on caring thinking can be designed.

case 1: quantitative study

The first case study examined the connection between ecological education and P4C, designed an educational program, and verified its effectiveness. Both education of ecology and philosophy require the ability to connect these issues in an integrative way: recognizing that a situation is problematic and taking action to solve the problem. In this regard, Iwasaki Dai (2015) argued that in dealing with ecological issues, it was important to educate students to find the link between knowledge acquisition and practical action. He argued that this required providing ecologically relevant knowledge, then applying "reflective thinking that repeats realization and questioning" to "crystallize vague knowledge into a clear form," and enabling expanded thinking about concepts to create an emotional connection between humans and nature (p. 28). I thought this approach aligned with P4C emphasis.

This case study was developed and conducted by a P4C researcher -author-and an ecological education researcher[5]. The overall procedure of the study was as follows: first, an organic relationship between the components of ecological sensitivity and the criteria for caring thinking was derived through a literature study. Second, inspired by the correlation between ecological sensitivity and caring thinking, we designed an educational program consisting of four lessons. Third, we developed a self-report questionnaire as a validation tool to verify the program's effectiveness. The questionnaire used a 5-point Likert scale. We obtained feedback from two experts to ensure that the educational program and questionnaire were appropriate for fourth and fifth graders. We revised the educational program four times and the questionnaire seven times. After completing these preparatory steps, we conducted four sessions of team teaching.

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[5] This section draws from a previously published paper with my colleagues, presenting only minimum excerpts. I have extracted only some facts for my argument—including research process, study population demographics, and education program overview—and have rewritten these all descriptions. The analysis of survey results presents new, unpublished interpretations.

A total of 58 students from fourth and fifth grade at elementary schools A and B in seocheon-gun, chungcheongnam-do, South Korea participated in program:

- elementary school A: 19 students in one fourth-grade class and 26 students in two fifth-grade classes
- elementary school B: 13 students in one fifth-grade class

Before the first session, all students completed a pre-survey. They also completed a post-survey shortly after the final session. The questions in the pre- and post-surveys were identical. Throughout the entire process—from research design, program development, questionnaire creation, session facilitation, survey analysis, findings discussion, to conclusion drawing—we conducted comprehensive reviews and discussions. In this paper, I outline the program we developed, present some representative student dialogues, and discuss the survey results.

Table 2. outline of "Ecology with P4C" program

session	Ecology with P4C
1st	• Amy and the geese inquiry activity: analysis of the film "Fly Away Home (1996)" to generate philosophical inquiry questions and reflections focused on emotional responses and cognitive engagement. • Winter preparation simulation: experiential learning activity simulating squirrel behavior through acorn concealment, designed to foster ecological understanding
2nd	• Ecological emotion connection activity: field observation of local ecosystems, incorporating photographic documentation of valued natural organisms, followed by reflective identification of meaningful ecological relationships • Value attribution exercise: post-field analysis of documented organisms through photographic examination, emphasizing value-added thinking through the act of naming and personal connection formation. This naming process serves as a concrete manifestation of appreciative thinking, allowing learners to externalize their ecological value recognition.
3rd	• Ecological and philosophical dialogue: guided viewing of human-ecosystem interaction scenarios, followed by facilitated philosophical inquiry enabling children to explore and articulate their emotional responses to environmental intervention. • Environmental stewardship investigation (I am the eco-guardian!): children's field observation of ecosystem management practices, followed by collaborative philosophical dialogue examining their affective responses and emerging understanding of care responsibilities
4th	• Environmental value communication project: collaborative creation of ecological preservation signage, wherein children articulate their understanding of environmental values through visual and textual elements, followed by peer presentations to promote caring thinking

Source: Miwha et al., 2023, p. 218. (with additional content by the author.)

I and my colleague, who specializes in ecology education, conducted sessions as outlined in table 2 for the "Ecology with P4C" program. We implemented this program by visiting public schools and utilizing a portion of their allocated educational time. Due to these constraints, this program was technically limited to a small number of sessions, which was why I and my colleague designated it as a pilot study. Despite having just four sessions, as a teacher or facilitator, I and my colleague agreed to maintain the P4C methodology, wherein students are encouraged to formulate their own questions and share and discuss them in the classroom. Accordingly, we facilitated students to make their questions and think about them together before or after watching the film, documentary materials, and participating in various outdoor activities. I think the difference between this program and standard curriculum of Korean public schools was that students were guided to create their own questions, and the entire classroom engaged in communication while sharing these inquiries. As a consequence, we identified significant responses from the students' comments as follows:

- 1st: "Amy's heart is warm as she cares for geese that have lost their mothers. I am impressed that Amy seems to have a deep and caring heart."
- 2nd: "The little wildflower I found is a living thing, and because it's alive, I think it's very valuable in its own right." "Frogs are good friends because they are cute. I want to take care of this friend because all frogs are precious."
- 3rd: "If I were to be pricked from a pine needle, I would feel a sharp sensation. But at the same time, the pine tree also would be in pain, so we discussed that it would be nice to have signs around the pine trees."
- 4th: [Students discussed with teammates and then created the sign] "Do not feed migratory birds! Please be quiet, migratory birds can rest."

In the following, I present the students' survey results (table 3) and analyze their significance. Analysis of the responses revealed that students demonstrated the most significant growth in question 6, which examined the connection between "awe" in ecological sensitivity and "appreciative thinking" in the caring thinking value-principles. Conversely, responses to questions 5 and 10 showed a minimal change in student self-reporting. For questions 5 and 10, the statements were: "I believe that not all living beings have intrinsic value" and "I have no intention of participating in a conservation action." First, regarding question 5, the concept of "intrinsic" may have been too abstract for fourth and fifth grade elementary

school students. The term requires understanding values that exist independently of external factors, a form of abstract reasoning that may exceed the cognitive development level of elementary school students, whose thinking typically centers on concrete, tangible experiences. Understanding intrinsic value requires identifying unobservable qualities, demanding a level of abstract thinking that may not align with their developmental stage. Second, question 10 was related to "active thinking" in the caring thinking criteria. Questions 11 and 12 were also related to active thinking, but I think the definition of "conservation" was too broad, especially for question 10. For reference, question 11 was "I try to save endangered animals and plants" and question 12 was "I choose proper attitudes or methods for protecting ecology and present alternatives." The broad definition of "conservation" may have caused ambiguity in interpreting question 10, as it did not provide clear parameters or examples to guide students' understanding. In contrast, questions 11 and 12 presented specific actions or behaviors that align more concretely with the concept of active thinking. For instance, question 11 focuses on a tangible effort, such as saving endangered species, which is likely to resonate more directly with students' concrete thinking and experiences. Similarly, question 12 emphasizes decision-making and the proposal of ecological alternatives, offering a structured way to assess active thinking within the framework of caring thinking criteria. The comparative specificity of questions 11 and 12 likely facilitated more targeted responses, whereas question 10's broader scope may have diluted its effectiveness in measuring active thinking.

Table 3. survey results [N=58, $p<0.05$]

questionnaire number	value principles of caring thinking	pre-post comparison	
		t	p
1	empathic thinking	2.070	0.043
2		2.102	0.040
3		3.341	0.001
4	appreciative thinking	1.212	0.230
5		0.448	0.656
6		4.103	0.000
7	affective thinking	2.237	0.029
8		1.398	0.167
9		1.240	0.220
10	active thinking	0.540	0.591

questionnaire number	value principles of caring thinking	pre-post comparison	
		t	p
11		2.153	0.036
12		2.012	0.049
13		2.698	0.009
14	normative thinking	3.438	0.001
15		1.551	0.126

Source: Miwha et al., 2023, p. 211.

In summary, elementary school students demonstrated difficulty with the concept of "intrinsic value" developed through "appreciative thinking," and they were also uncertain about the scope of "conservation" in the contexts of "active thinking." These findings indicated a need for future research to provide concrete contexts where specific definitions could be discussed gradually with students. I thought this suggested incorporating qualitative research methods—such as dialogues, interviews, and essay writing—alongside quantitative approaches to better understand elementary school students' misconceptions and cognitive barriers regarding abstract concepts. Therefore, I wanted to develop and study a program to discover and strengthen active thinking in students' thinking, as I believe that "active thinking" is a very important criteria that highlights the identity of caring thinking.

case 2: qualitative study

In 2024, I designed and conducted a different type of program and study. The program utilized Lipman's philosophical novel and explored the criteria for assessing caring thinking through students' questions, dialogues, and essays. This approach differed from the earlier quantitative research that aimed to verify the significance of the criteria. This qualitative research program focused on reading philosophical narratives with learners, encouraging questions, and cultivating attention to their emotions, others' emotions, and the world around them—hence its "qualitative" nature. Some might question whether qualitative research belongs to empirical research. In my opinion, qualitative research is as empirically valid as quantitative research. First, qualitative research involves collecting and analyzing real data, including experiences, observations, and conversations with research

participants (learners). Second, it employs systematic exploration of phenomena. These characteristics establish qualitative research's validity and reliability comparable to quantitative research, supporting the argument that both approaches should be considered empirical research.

In selecting a philosophical text for this research, I considered two factors: first, my research interest in caring thinking—specifically, how emotions are interpreted, what meaning is attached to them, and how they facilitate behavioral change; and second, in relation to the class that would accompany my research, administratively speaking, the students who signed up to participate in my class were fifth and sixth graders. *Nous* satisfied both criteria. This philosophical novel centers on events involving the main character, Nous, who shares the story's title. The narrative follows class members, including Brian and Pixie, as they empathize with Nous' situation and engage in discussions about what is right and good. Especially in chapter 8 of Nous presents a community of classroom discussions about considerations for living well. Isabel, one of the class members, says:

> Emotions! A component of ethical inquiry and one of the circumstances of a person's life. Practically everything we do begins with the way we feel. If we feel mean, we act mean. If we feel good, we do good things. Emotions often turn into actions. Good emotions lead to right actions. ... if you care for some person or place or thing, then it follows that you have a relationship with that person, place, or thing, like a caring relationship. (Lipman, 1996b, p. 54)

Figure 1: classroom scenes depicting the author's facilitation of student-led philosophical dialogue

Source: Author.

Based on *Nous*, I designed a year-long program for fifth- and sixth-grade elementary school students. Following the Korean public education semester system, the program comprised eight sessions in the first semester (March-July) and six sessions in the second semester (August-December), with each session

lasting 100 minutes on Saturday mornings. Nine students participated in total: four in the first semester and five in the second semester, with one student attending throughout the year. In all sessions, I maintained fidelity to the methodologies I employ to transform the classroom into a community of inquiry. As a teacher and facilitator, I tried to guide students to read and think about *Nous* based on their own autonomy to the greatest extent possible. Students took turns reading *Nous* aloud. There are nine chapters in *Nous*, so some days we were able to read one chapter in one session, and other days we were unable to read one whole chapter in one session. What was remarkable, however, was that students had an ongoing curiosity about who Nous, the central character of the novel and the title of the entire story, really was, and what crises she would face or what judgements she would make in subsequent chapters. I think students effectively utilized this curiosity as motivation for formulating questions. When students presented their questions, I quickly typed them into the classroom computer and wrote their names next to their questions. Then, on the screen at the front of the classroom, students could see all the questions from the community at a glance. As a facilitator, I would ask each student as they presented their question what their motivation, intention, or hidden thought—premise—was behind the question. Following this process, students would classify questions into categories such as similar questions, connections, and intriguing inquiries. This process led to a series of conversations and discussion topics. I believe that these dialogues are clearly different from common classroom conversations. In general, in the public education system in South Korea, the national government establishes a curriculum, and classroom textbooks are produced in accordance with these national standards. Each textbook contains achievement standards at the beginning of lessons that teachers must convey, and teachers are trained to present these objectives to students at the commencement of every lesson. Conversely, P4C-oriented programs grant students autonomous rights to develop their ideas into questions. Consequently, I perceive my classroom role as a facilitator of thinking rather than an authority establishing learning objectives, and one of my pedagogical aims is to facilitate substantive philosophical dialogues founded upon questions shared by members of the community of inquiry, including myself. Occasionally, when I wanted to develop a deeper discussion from the students'

dialogue, I incorporated exercises or discussion plans from *Nous*'s manual, *Deciding What to Do*. However, in no case did I first present my intended instructional direction or discussion topic, nor did I use the manual to steer students' thinking in the direction I wanted them to go. Additionally, both the novel *Nous* and the Manual were provided to students in English and Korean, with all translation from English to Korean performed by me personally.

I categorized the *Nous* narrative into four parts to analyze students' questions, dialogues, and essays from the community of inquiry. These parts follow Gustav Freytag's (1894/2008) Pyramid : exposition, rising action, climax, falling action and denouement. Note that this paper combines Freytag's final two stages (falling action and resolution) under "denouement." The findings below present students' inquiry questions as they followed the *Nous*' plot, selected dialogues that emerged from these questions, and relevant essay excerpts. From this point forward, the present tense is used to convey the immediacy of the sessions, and square brackets ([ ]) indicate the caring thinking criteria identified in the excerpted conversations and essays. Student names are anonymized using alphabetical designations.

exposition (chapters 1, 2)

1) questions created by students

- Why do giraffes need to learn human language since they have their own language?
- Giraffes have different vocal cords and brain structures than humans. So how is it that they can speak like humans?
- Did the author of *Nous* really think of giraffes as real human beings, or did the author create a story that doesn't make sense?

2) dialogue and essay

- G: As it turns out, I wonder if this whole thing is just a story that the author made up, and the ending is already set in concrete. [empathic-imaginative]
- F: I think it's kind of sad that it's all fake, and that the ending is already made up. [empathic-compassionate]
- author (as teacher): Why do you think it's sad?

- F: Well, because G is saying that there is nothing we can do about it, and that's just too pathetic. [empathic-compassionate]
- B: I think all of this just depends on what we believe. If we believe that we're alive and we're here and it's real, then all of these people in this book could exist. I believe in God, so I think all of this is real. [empathic-serious]
- G: Hmm, I've never believed in God, so I'm not going to change my opinion now that I think all of this was designed by some being "x." [appreciative-preserving]

3) G's essay:

"I think x, who designed all of this, already has all the plans. One of those plans is that x has designed this world so that most people will believe what x says. But it's also possible that x's plans are all a joke. That's why we don't trust each other. This is why we have religious and social conflicts. I want to blame x for causing so much conflict and chaos in the world that x created". [empathic-imaginative], [empathic-mindful]

During the discussion of chapters 1 and 2, students engaged their imaginations extensively. They contemplated whether giraffes could learn human language, and while entertaining this possibility, they recognized that the story of Nous might be entirely fictional. This led them to consider whether their own world and current thoughts might also be illusory.

rising action (chapters 3, 4, 5)
1) questions created by students
- Why does Nous want to go to school?
- What does Miranda mean by "unbelievable?"
- The concept of virtue means doing good things and not doing bad things, so are doing good things and not doing bad things two different things?

2) dialogue and essay
- A: I think loving and believing are different things. In dramas, even though they're in a relationship, they have secrets. I mean, people have their own secrets or beliefs, and they value them. [appreciative-valuing]

- F: For that matter, I love my mom, but I don't believe her easily, because when I was a kid, I hated broccoli, and she tricked me by telling me broccoli tastes like candy.
- author: Oh, I see. So can we agree with A's idea that the only person to believe in is yourself?
- B: I have a different opinion. I believe in God. Some people say there's a new earth under the earth, and it hasn't been discovered yet, and the glaciers in Antarctica keep coming up with new plankton, and there's other life that we don't know about, and new things keep coming up. When I hear things like that, I really believe there is a God. [affective-serious]

3) A's essay:

"I believe in myself. Honestly, the person who knows me best is myself. Of course I love my family. [affective-loving] But I want to preserve my beliefs because the person who knows me best is not my family, but myself. [appreciative-preserving] Certainly, my family, friends, and teachers are all precious. [appreciative-cherishing] But I still think that believing and loving are different."

The discussion returned to an earlier question: "Is all of this due to human will, or is it the will of God or x?" Student B maintained that "I am alive today because God willed it." Student F countered that claim. "How is it possible for God to decide the fate of 8 billion people?" asked Student F. This exchange led to a broader dialogue about free will and what the students believed most deeply.

climax (chapters 6, 7, 8)
1) questions created by students
- Is Miss Merle's statement, "Just knowing what the virtues are makes you better people" correct?
- Is the instruction method, the way Miss Merle delivers her lessons, just as important as the inquiry method, the way Pixie's mom uses it?
- What is fear? Is fear a thought or an emotion?
- How is it possible to have a caring relationship with places and things?

2) dialogue and essays

- E: I think when I make a moral judgment, I shouldn't just have emotions or just think about it.
- author: Can you explain a little bit more what you mean by that?
- E: For example, I don't think I can act like a firefighter if I think, "From now on, I should be courageous," because I'm not an AI.
- author: I see. I think this idea could be linked to one of the questions on the screen, which asks you to think about the instruction method and the inquiry method.
- C: I think instruction is when someone explains something to me and then repeats it to implant the idea. For example, when a firefighter enters a burning apartment building and is asked who to save first, the firefighter acts on the instruction, "Save the children first."
- author: Oh, I see, so what is the inquiry method?
- C: I think it's a way to help me have a sense of accomplishment for my actions. [affective-honoring] Humans aren't perfect when it comes to emotions, so if I tell a joke and the other person is upset, I'm going to decide that it wasn't the right thing to do. I think that's what the inquiry method is for, to help me connect between my emotions and my rational judgment.
- author: That's a great idea. So, if we were firefighters, what emotions would we need to have to save someone?
- C: I think I must have courage, compassion, and a strong feeling of being committed to the situation. Because the people who are waiting to be rescued are probably in a lot of fear, and if I don't save them, their fear is going to get worse and worse. I have to be compassionate to the situation, [empathic-compassionate], [empathic-solicitous]. I know that firefighters continue to be trained, so they can feel compassion, and they can also feel fear, and they can reconcile those two emotions so that they can be courageous. [affective-reconciling] Ultimately, though, they have to move beyond their fear. [normative-demanding]
- author: How do they get over their fear?
- C: In school, I learned that we must "put ourselves in my shoes."[6] It means that we should be able to imagine the emotion or thought from another person's point of view. [normative-demanding] Firefighters have a lot of

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[6] The term the student used was "易地思之," a Chinese phrase. This term is also widely used in Korea with its Korean pronunciation.

training in fire situations, so they know how to escape, and they can feel fearful and sad, but at the same time be brave and save people. [active-saving]

In chapter 7, Pixie's mother refers to her philosophy lessons as "doing philosophy" or "ethical inquiry," while Miss Merle calls her method "moral instruction." Using firefighters as an example, Miss Merle states, "firefighters feel fear, but they are brave anyway" (Lipman, 1996b, p. 45). Miss Merle argues that repeatedly explaining courage to firefighters will help them form habits, become familiar with fire scenes, and overcome their fears. Isabel, who advocates for a cognitive view of emotions, argues that "virtue is a middle path between two extremes or vices" (p. 55). In my opinion, Isabel adopts the Aristotelian position that good character is based on good emotions, while simultaneously representing Nussbaum's cognitive-evaluative theory of emotions[7]. Throughout the debate, Isabel consistently disagrees with Miss Merle's ideas, stating that "whenever you act just out of habit, whenever you act unthinkingly, or automatically, you're taking a risk" (p. 57).

- author: What are you afraid of?
- A: I don't like creatures without arms and legs crawling around, like snakes or earthworms. Once I stepped on an earthworm while riding my bike, and since then, I've been thinking that they are gross and scary, and now I say to myself, "Avoid them all the time."
- author: So, are your emotions and thoughts about earthworms connected?
- A: I think so. My judgments about earthworms are connected in the order gross–dislike–avoid.
- author: Then, let's talk about emotions related to valuing something. It could be any object, any place.
- A: I cherish my bed and blanket in my room the most. [appreciative-cherishing].

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[7] Nussbaum (2001) notes the cognitive and evaluative aspects of human emotions and names her theory "cognitive-evaluative theory of emotions" (p. 3). According to this theory, emotions always involve an appraisal or evaluation of some value or essence. Therefore, Nussbaum argues that emotions should be viewed as involving not only the recognition of an object, but also the very idea of valuing it.

- author: So, I think A has a caring relationship with the bed and blanket. In Korean, we can say "배려[bae-lyeo]," which we translate to "caring" in English.[8]
- D: So when I think of caring, can I think of it as liking or cherishing?
- author: That's a good idea. Loving is kind of caring.
- D: Well, teacher, I care about lizards. When I was in the first grade, I was gifted with my lizard, and we've lived together for four years now. [affective-fostering]

Following this dialogue, students wrote essays on "What I Value." The table below presents their identified values and accompanying rationales, quoted directly from their essays.

Table 4. essays written by students (excerpts)

what I value	the reasons for the judgment and the emotions associated with it
bed and blanket, mom and dad	• I like the coziness and warmth of my pink blanket, and I am happy with them. [affective-liking] • If my mom and dad didn't exist, I wouldn't be who I am today. Therefore, they are the most important and respectful people. [appreciative-respecting]
money and my parents	• I need money for survival. Earning and saving money will benefit me, and I like to make a benefit. [affective-liking] • My parents always help me. When I think of them sacrificing for me, I feel grateful and optimistic about my future. [appreciative-valuing]
my lizard	• I have been spending time with the lizard for four years and have grown attached to it, we have become close friends. [affective-friendly] I felt satisfaction in caring for my lizard. I also thought it was funny when my lizard ate crickets. [empathic-nurturant]
achievement or success	• My dream is to be an actor. To become a famous actor, I need to be the #1 out of millions. When I participate in a competition, I always think I should win. [normative-compelling] And when I win, I'm happy, satisfied, and feel that this experience will help shape my future. [active-building]

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[8] In Korean, the word "배려[bae-lyeo]" means "helping others from the bottom of one's heart." While the English equivalent is "care" or "caring," its contextual usage in Korean is more narrow. In Korea, 배려[bae-lyeo] primarily refers to altruistic acts of kindness toward others. For example, Korean subway seats designated for disabled individuals, the elderly, pregnant women, and infants are marked with stickers reading "seats for the transportation disadvantaged" or "seats for care of pregnant women." The concept of caring in Korea is thus primarily understood as normative and behavioral, requiring actions to assist those in relatively difficult situations. Phrases such as "care for your thoughts" or "care for yourself" are consequently rare in Korean usage.

what I value	the reasons for the judgment and the emotions associated with it
family and good academic performance	• Family is the most important because we support each other. If I didn't have a family, I would have to live on my own, and if I got into trouble, there would be no one to support me. [empathic-mindful] • The second important thing is a good academic record. If I study hard, I can broaden the range of jobs. If I can do what I want to do, my future will be bright. [normative-expectant]

Source: Author.

denouement (chapters 9)

1) questions created by students

- Nous said she would make the decision that leads to the happiness of the greatest number of people, but how does she know what that really is?

- If Nous says that the giraffes are important, and her friendship with Pixie and Brian is important, how does she know which one is more important?

- Nous can speak human language, and she is friends with Pixie, so why does she say that the giraffes at the zoo are her community?

2) dialogue

- A: The rule that Nous used is similar to the one that Jenny said, and I think it's the best one, and I heard a story about this rule, which is that the brake on a train are broken, and there's one person on left and five people on right, and I think I will save the five people.

- D: But if that one person is the CEO of the big company, would you still save five people and turn toward the one person? [empathic-imaginative]

- E: There's also another possibility. One is an elementary school student and five are very old people. What do you do then? [empathic-imaginative]

- A: If you guys keep complicating the situation like that, it's going to get difficult. If the five people are old, they have a lot of families, so if I save those five people, more people will be happy. [empathic-imaginative] Of course, the one person who will be killed will have a family, too, they will be so miserable. [empathic-compassionate] But I think the most pitiful person in this story is the engine driver. This person didn't do anything wrong. [empathic-mindful]

- author: You've thought about it from the driver's point of view, and you've maintained your rule.

- A: But I think it's really confusing when I'm in that situation, and I think having the rule and enforcing it might be two different things.
- C: Well, in any bad situation, there's always a victim and a perpetrator, and the victim is always frustrated and sad, even though the perpetrator might have reasons. [empathic-compassionate]
- D: So we have to have a rule that I picked. [normative-demanding] I picked Willa Mae's "Do what you can to reduce the amount of cruelty in the world." I think the world is too cruel, and we should all try to make it better. [empathic-serious], [normative-obliging]

In this significant dialogue, students demonstrated an evolution of their thinking from rules to happiness. In my opinion, conversations about happiness are fundamental to understanding caring thinking, as the concept of happiness approached from an eudaimonistic perspective extends beyond momentary pleasure or satisfaction to encompass the attribution of intrinsic value and recognition of importance. For instance, when news of a distant earthquake with numerous casualties prompts empathetic engagement with others' suffering and recognition of its relevance to one's life goals, emotion and cognition merge into a single, rich cognitive experience. In the final session, students' conversations revealed genuine engagement with the subject matter and demonstrated sophisticated perspectives on eudaimonia.

The conclusions of this qualitative study can be summarized as follows: Throughout the 14 sessions, student thinking demonstrated a sequence: empathic, appreciative, affective, normative and active thinking. These thought patterns exhibited complex, three-dimensional overlap rather than existing in isolation. The frequency analysis revealed that empathic thinking occurred most frequently, followed by affective thinking, appreciative thinking, and normative thinking. Active thinking appeared explicitly in a small number of cases, suggesting its role as both the final stage and the least frequent form. Several key findings emerge from this analysis. First, the manifestation of caring thinking is both sequential and layered. Student thinking did not progress through discrete stages but demonstrated overlapping criteria, suggesting that caring thinking is interwoven rather than linear and progressive. Second, active thinking, as the final and least frequent stage, indicates potential challenges in students reaching this level. This

suggests the need for enhanced pedagogical support and structured learning environments to facilitate progression to active thinking. Furthermore, while the study readily identified connections between emotion and thinking in learner patterns, the relationship between emotional-cognitive thinking and behavior requires more sophisticated research methodologies. Caring emerges as an active thinking skill that both unifies emotion and cognition and drives inquiry. These findings indicate the need for future research examining how caring thinking's strengths manifest in concrete contexts.

conclusion

In this paper, first, I introduced Lipman's early work on P4C, namely the empirical work he and his colleagues did to validate the enhancement of critical thinking. Secondly, I examined caring thinking's emergence in the mid-1990s as a completion of Lipman's multidimensional thinking. I also looked at the works of P4C scholars, including Sharp, who have enriched the concept of caring thinking by giving it diverse meanings. Third, I discussed how empirical validation studies of caring thinking are conducted and what trends are emerging in these studies-just as Lipman attempted to do with critical thinking in the 1970s. Finally, I presented two empirical studies I conducted in the field of caring thinking and discussed their findings. From this analysis, the following conclusions emerge.

Based on the analysis of caring thinking research in both South Korea and internationally, a clear pattern emerges: while empirical research on caring thinking consistently relies on Lipman's theoretical framework, there appears to be an overemphasis on quantitative measurement. This trend reflects a broader tension in educational research between the desire for measurable outcomes and the need to capture complex philosophical concepts. While quantitative methods provide valuable comparative data, they may not fully capture the nuanced nature of caring thinking as Lipman envisioned it. Future research would benefit from a more balanced approach that combines quantitative metrics with qualitative methodologies, particularly when examining how caring thinking manifests in various educational and cultural contexts. This methodological diversification could help bridge the gap between theoretical understanding and practical assessment of caring thinking.

Then, in terms of the empirical research I have done, the following conclusions and recommendations emerge from two case studies. In conclusion, Lipman's five criteria for caring thinking should not be treated as a unified set of criteria. Both quantitative and qualitative studies revealed that active thinking was relatively under-represented, suggesting that all five criteria should not be applied simultaneously in a single lesson or assessment. This indicates the need for more empirical research examining how Lipman's criteria are manifested in classroom practice. Based on these findings, I propose two primary research directions: The first is to conduct empirical research to carefully discuss what texts can be used to address caring thinking as a key issue. For example, *Nous*, used in qualitative study, proved effective for discussions of moral judgment and emotions. Philosophical inquiry classes worldwide employ various philosophical texts; empirical research could evaluate which texts effectively promote caring thinking. Secondly, empirical research should also be conducted to determine how learners' caring thinking is manifested in philosophical inquiry or dialogues that utilize philosophical texts. This research should incorporate both quantitative and qualitative methodologies, as my cases show, demonstrate how qualitative research can address quantitative limitations. By designing and conducting empirical research in a variety of ways, and doing it consistently, we can gain a more sophisticated view of the philosophical ideas that we want to emphasize through P4C.

Consistent, varied empirical research can enhance understanding of P4C's philosophical objectives. This process will illuminate philosophical education's potential for sustainable development and impact. While philosophical educators' enthusiasm for P4C is evident, program adoption requires justification. When someone asserts that "P4C is helpful," the basis for such claims requires examination: Is it helpful for thinking? What constitutes helpful for thinking? Is it useful for life? What defines useful? Empirical research methods offer a pathway to providing substantiated answers to these fundamental questions. And this will require international and interdisciplinary collaboration among researchers interested in the empirical study of caring thinking.

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appendix

- This table contains a list of scholarly journal articles that have been formally published on the concept of Lipman's "caring thinking" since the second edition of *Thinking in Education* was published, and the concept was introduced. (Retrieved December 29, 2024)

- The articles are arranged in the order of the year in which they were published, and the English titles of the articles are transcribed as originally written and published by the author(s). In some cases, "considerate thinking" or "careful thinking" is used instead of "caring thinking." This is because there are several different translations of the word "caring" in Korean. Note that "caring" is translated as "배려[bae-lyeo]" by English-to-Korean translators. If you take the Korean verb form of "배려[bae-lyeo]" and put it back into an English-to-Korean translator, it will often translates not only as "care" but also "considerate" or "be careful."

author(s)	English title of the paper written by the author(s)	research focus	publisher information (ISSN)	year vol. (iss.)
Yeonkyung Jung & Daeryun Chung	Caring thinking in Arnold Lobel's literature for children	caring thinking in children's literature	journal of children's literature and education (1598-3277)	2004 5(2)
Boyeon Park & Daeryun Chung	A study on the subjects and meanings of caring and the aspects of caring thinking in Korean folktale picture books	caring thinking in Korean folktale illustrated books	journal of children's literature and education (1598-3277)	2006 7(2)
Chunhee Lee & Daeryun Chung	Enhancing young children's caring thinking through a community of philosophical inquiry	community of philosophical inquiry(CPI)'s impact on preschoolers' caring thinking	Korean journal of early childhood education (1226-9565)	2008 28(3)
Chunhee Lee & Daeryun Chung	5-year-old young children's advancement in types and characteristics of caring thinking	caring thinking characteristics in CPI discussions	journal of children's literature and education (1598-3277)	2008 9(2)
Chanok Park, Jihee Han & Yesuk Lee	The effect of multicultural education activities on children's creativity and caring thinking	impact of multicultural education on creativity and caring thinking	Korean education inquiry (1598-8317)	2011 29(2)
Huigyeong Gang	The effects of discussion activities through fairy tales on young children's ability to carry out caring thinking	effects of fairy tale discussions on preschoolers' caring thinking	Korean journal of early childhood education research (1975-7190)	2014 16(1)
Kujong Yoo, Seungyeon Choi & Wonsoon Park	The effect of six thinking hats activity following story time on caring thinking and prosocial behavior of young children	six thinking hat activities' effect on caring thinking and prosocial behavior	journal of children's literature and education (1598-3277)	2014 15(2)
Yunok Lee	The effects of problem solving discussion activities through fairy tales based peer intervention on young children's caring thinking ability	problem-solving fairy tale discussions with peer intervention on caring thinking	journal of children's literature and education (1598-3277)	2014 15(4)
Youngja Ko	The effect of discussion activities with the use of picture books related to character education on considerate thinking, social competence & pro-social behavior	effects of character education picture book discussions on caring thinking and social behavior	journal of children's media & education (1738-0286)	2016 15(3)
Eunhyouk Park & Ami Cho	Development and validation of youth's caring thinking scale based on Lipman's theory	development and validation of caring thinking scale for youth	forum for youth culture (1975-2733)	2016 (46)
Hyunji Park & Jieun Kim	The effects of cooperative activity using character-related picture books on children's caring thinking	effects of cooperative character picture book activities on caring thinking	journal of Korean child care and education (2508-4208)	2016 12(1)
Inyoung Cho	The effects that care education based on picture books with the six thinking hats skill has on young children's caring thinking	effects of six thinking hats care education with picture books on caring thinking	Korean journal of early childhood education research (1975-7190)	2016 18(1)
Mihye Hong & Younoak Yu	Effects of a philosophical inquiry community activity using Korean folk tales on young children's caring thinking	effects of philosophical inquiry with Korean folk tales on caring thinking	journal of children's literature and education (1598-3277)	2017 18(2)
Suyoung Kim & Sungwon Kim	The effects of multicultural education based on world cultures' project activities on young children multicultural acceptability and caring thinking	effects of world cultures project on multicultural acceptance and caring thinking	the Korean society for child education and care (1598-4397)	2017 17(1)
Yunnoung Choi	A study of relationship between preschool teachers' consideration thinking and	relationship between teachers' caring	journal of education research (2508-6146)	2017 2(1)

author(s)	English title of the paper written by the author(s)	research focus	publisher information (ISSN)	year vol. (iss.)
	young children's social development	thinking and children's social development		
Mikyung Kim & Hyesoon Kim	The effects of the organization culture of daycare centers on the caring thinking and the effectiveness of teachers	effects of daycare center organizational culture on teachers' caring thinking and efficacy	journal of education research (2508-6146)	2018 3(2)
Kyungjoo Park, Keyoungsook Choi & Yijeong Kwon	The effects of integrated arts program on caring thinking of young children	effects of integrated arts program on children's caring thinking	the journal of educational research (1738-2246)	2018 32(2)
Jiyeon Woo & Ilsun Choi	The effects of empathy education activities on young children's emotional intelligence and caring thinking	Effects of empathy education on emotional intelligence and caring thinking	journal of children's literature and education (1598-3277)	2018 19(3)
Jungeui Kang & Eunjung Kim	A study on the nature environmental sensitivity and careful thinking of young children according to the forest-experiencing activity based on the education of sustainable development	Forest experiences' impact on environmental sensitivity and caring thinking	journal of future early childhood education (1229-3083)	2019 26(1)
Keunyoung Park & Eunjoo Kwon	Effects of the activities for five senses using folk games on the considerate behaviors and the probabilistic thinking of young children	effects of folk game sensory activities on caring thinking and behavior	the journal of learner-centered curriculum and instruction (1598-2106)	2019 19(1)
Youjin Lee	A study on the relationship between childcare center teachers' caring thinking and communication skills	relationship between teachers' caring thinking and communication skills	journal of Korean child care and education (2508-4208)	2019 15(6)
Youjin Lee	The effects of childcare teachers' caring thinking on teacher-child interaction	impact of teachers' caring thinking on teacher-child interaction	journal of life-span studies (2234-0904)	2019 9(3)
Minji Kang, Hyunjeong Kim & Kyoungnam Choi	The effects of young children-directed question based picture book reading activities on the inducing reading interest and considerate thinking of children	effects of child-directed picture book reading on reading interest and caring thinking	educational theory and practice for infants and young children (2508-1942)	2020 5(3)
Sunghee Lee & Hyeonjeong Lee	A study on the effects of cooperative physical activities on caring thinking of 5-year-old children	effects of cooperative physical activities on caring thinking	journal of education & culture (1598-9283)	2020 26(5)
Hyunee Cho & Hyungsook Cho	Effects on the inquiry activities about the appropriate technology with storytelling on children's altruism, caring thinking and scientific inquiry ability	effects of appropriate technology storytelling on altruism, caring thinking, and scientific inquiry	early childhood education research & review (1229-5809)	2020 24(4)
Jiwon Jeong, Eunkyung Lee & Changbok Kim	Effects of discussion based story-sharing activities on children's caring thinking and pragmatic language competence	effects of story-sharing discussions on caring thinking and pragmatic language skills	Korean journal of elementary education (1976-698X)	2021 32(2)
Jimyeong Hong	Effects of empathy education using dramatic play on young children's considerate thinking and creative personality	impact of dramatic play-based empathy training on caring thinking and creativity	the journal of humanities and social science (2951-049X)	2021 12(1)
Yunhee Kim & Jieun Kim	The effect of character education activities using STEAM on children's caring thinking and	impact of STEAM character education on	early childhood education & care (1738-9739)	2022 17(1)

author(s)	English title of the paper written by the author(s)	research focus	publisher information (ISSN)	year vol. (iss.)
	interpersonal problem-solving skills	caring thinking and problem-solving		
Miwha Jang, Jongwoo Jung & Hyein Ji	A study on the possibility of an ecological education program on ecological sensitivity and caring thinking	developing ecological philosophy education program integrating ecological sensitivity and caring thinking	Korean Journal of Environmental Education (1225-1259)	2023 36(3)

hye in ji:

Researcher at the Philosophy and Education Research Lab, Institute of Philosophy, Ewha Womans University, wrote a doctoral dissertation on "Caring and Philosophy for Children: A Comprehensive Study of Matthew Lipman's Caring Thinking", in Korean. Her research focuses on the relationship between thinking and emotion, and how this interconnection can enhance P4wC practices.

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