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Educating in an Uncertain World. An exploratory research with teenagers on the value of uncertainty in education through the practice of Philosophy for/with children

Educare in un mondo incerto. Una ricerca esplorativa con adolescenti sul valore dell'incertezza nell'educazione attraverso la pratica della filosofia per/con i bambini

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Abstract:

Through learning environments such as the Philosophy for/with Children's (P4wC) methodology, young people share a common philosophical issue and face a collective path of research towards a(some) possible answer(s). The article introduces the P4wC framework, linked to the studies of uncertainty in sustainability education, on a research experience with a group of teenagers of a public school in Washington DC. Where it is analyzed through the uncertainty competences proposed by Tauritz, 2019, how P4wC can develop a type of experience that educates in coping with uncertainty

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together with others. And thus, suggesting not only a collective way in which students address a common question, but also a methodology that includes, works and it is developed in the uncertainty of unfinished answers. Such as the world we live in.

Keywords: Learning Environments, Collective practice, Uncertainty, Philosophy for/with children, Philosophizing.

Abstract:

Attraverso ambienti di apprendimento come la metodologia della Philosophy for/with Children (P4wC), i giovani condividono una questione filosofica comune e affrontano un percorso collettivo di ricerca verso una o più risposte possibili. L'articolo introduce il framework P4wC, legato agli studi sull'incertezza nell'educazione alla sostenibilità, su un'esperienza di ricerca esplorativa con un gruppo di adolescenti di una scuola pubblica di Washington DC. Dove si analizza, attraverso le competenze sull'incertezza proposte da Tauritz nel 2019, come la P4wC possa sviluppare un tipo di ambiente di apprendimento che educi ad affrontare l'incertezza insieme agli altri. E quindi, suggerendo non solo un modo collettivo in cui gli studenti affrontano una domanda comune, ma anche una metodologia che include, funziona e si sviluppa nell'incertezza delle risposte incomplete. Come il mondo in cui viviamo.

Parole chiave: Ambienti di apprendimento, Pratica collettiva, Incertezza, Filosofia per/con i bambini, Filosofare.

1. Philosophy for Children: a collective practice of delving into a common problem

“As soon as we recognize the arbitrary in the natural, the contingency in the necessary, the extraordinary in the ordinary, philosophy finds its palace” (Kohan, 2015: 47)

In the midst of a post-pandemic world, traversed by political and economic conflicts on a global scale, philosophy appears as a possibility for dialogue. A place where conversation prevails and possible answers abound. A space that understands the uncertainty of the present and the future. And that, rather than wanting to eradicate it, delves into it to find collectively possible solutions to the philosophical problem posed.

The dialogical dimension is found in the origins of philosophical practice in Ancient Greece and remains as a method throughout the centuries. From a pedagogical perspective, it entails a particular way of conceiving, producing and trespassing knowledge to present and future generations (Golding 2017). By developing philosophical thinking through dialogue with others, the method promotes a certain sensitivity, an openness to adversity and towards the other (Mohr Lone 2013). However, the practice of philosophy has often been limited to certain elites. Pierced by the adultcentrism of modern times and the positioning of the unattainable field, it became unthinkable that philosophizing was transversal to every human being. And therefore achievable even by the youngest that inhabit the earth.

It is in this framework that Philosophy for Children (P4C) revolutionarily deploys the idea that philosophical questioning and thinking also regards the children and young people. Created by Mathew Lipman and Ann Margaret Sharp in the late 60's in the United States, they discovered through the literary genre how children already approached and addressed philosophical issues. Indeed many children's literature is reconstructed by philosophical issues and positions in accessible language for them. It attempts to help children recognize philosophical dimensions of their own experience and it models children engaged in philosophical dialogues, with or without an adult (Gregory 2021). From this discovery, Lipman developed a series of philosophical handbooks and didactic literature to introduce and do philosophy with children. From this initial study, the program has been disseminated locally and internationally for over fifty years. And its curriculum has been translated into dozens of languages as affiliate centers appeared around the world.

This worldwide educational movement has given rise to multifarious applications and implementations. All pertaining to the view that philosophy is a method and not a message, and philosophizing is an activity that even children do, rather than a doctrine. A reflective activity that uses everyday language and refines it to make it capable of giving deep meaning to life. It is an intellectual action peculiar in its rational, critical, problematizing and creative approach to reality (Santi 2005). This is why since its origins it was conceived as a cross-curricular practice (Weinstein 1987; Knite & Collins 2000; Cam 2006; Splitter 2006). Because of its approach to knowledge. Even conceived as the discipline that prepares to think in the other disciplines (Lipman 1988).

From this perspective, philosophy offers children a chance to discuss concepts and difficult topics such as truth, justice, freedom, that cut across all other disciplines but are openly examined by none (Santi 2005). Encouraging students to employ the tools and methods of inquiry so that they can assess evidence, detect inconsistencies and disabilities, draw valid conclusions, construct hypotheses, and employ criteria until they realize possible answers. The method, intrinsically collective, was named by Lipman as Community of Inquiry. He argued that inquiry is generally social or communal in nature because it rests on a foundation of language (Lipman 1988). Philosophical dialogue is aimed at the co-construction and sharing of knowledge with a community of thinkers (Santi 2006). Sharing the responsibility for the question with a group of peers, relying on one another to maintain the integrity of the inquiry (Gregory 2002). To do so, dialogue has to be a practice: *"One of the reasons that the process of discussion is so difficult for students is that they are so frequently lacking in models of good discussion with which they can identify"* (Lipman, Sharp & Oscayan 1980, p.104). So it becomes crucial to have the experience of thinking and learning together. Of recognizing and inventing problematic situations to approach them from different perspectives, with different premises (Vadeboncoeur, Aljouatic & Amini 2015).

Philosophy focuses on the assumptions that underlie our thinking and behavior and involves questions that cannot be settled in a final way, it helps students learn to evaluate claims based on reason and analysis, rather than on fixed beliefs and prejudice (Mohn Lone 2018). Encouraging young people to think philosophically in the classroom helps them appreciate the wide variety of perspectives from which the world can be viewed. Because, by definition, a philosophical problem does not have one settled answer. Philosophical engagement with others illuminates the vast range of possible perspectives (Mohr Lone & Burroughs 2016, p. 50). It considers alternative ways of acting, creating and speaking. To discover these alternatives, philosophers persistently appraise and examine their own presuppositions, questioning what other people normally take for granted (Lipman, Sharp &

Oscayan, 1980). Therefore, promoting the questioning of the values, ideas and faiths that permeate our practices, specially the socially dominant (Kohan 2015) and fostering independent thinking (Mohr Lone 2013).

To educate younger generations in such dialogical thinking is to develop social criticism that allows students to deliberate together about matters that are important in their life and the life of their communities (Reed-Sandoval, 2018). But the process of arriving at possible answers is crossed by the sharing responsibility of practicing democratic interaction and of constructing the kind of common understandings and shared interests that make collective action possible (Gregory, 2007). P4C creates an environment characterized by trust and open inquiry. Where it is also learned a more thoughtful tolerance of the diversity of perspectives that individuals have regarding the common matter (Sharp, 1987). The community for inquiry creates and intends to maintain intellectual safety around thoughts to be expressed that might not be expressed otherways. Raw thoughts, tentative, not yet formed thoughts, “spontaneous eloquence”, all become possible in an intellectually safe community of inquiry (Jackson, 2013).

Philosophy for/with children has demonstrated its outstanding value in the teaching of collective dialogue in order to achieve possible common answers. Something every day more important in polarized societies. The idea that one will take responsibility for one's own reasoning, and exchange ideas with others in an atmosphere of mutual respect for reason, is essential to the peaceful resolution of differences (Nussbaum, 2010). But also, it proves to be a didactic key for an increasingly uncertain contemporaneity. Especially for the younger generations. The community of inquiry can become a methodological frame to confront collectively what is most humanly challenging to us, with others. Especially regarding the most complex and uncertain matters, the method helps the community transit a process of collective reasoning towards possible answers (Barreneche & Santi, 2020). Even if these -such as the matter in discussion- remain uncertain.

2. Philosophizing in an uncertain world

While diminishing our feeling of certainty as to what things are, it greatly increases our knowledge as to what they may be; it removes the somewhat arrogant dogmatism of those who have never traveled into the region of liberating doubt, and it keeps alive our sense of wonder by showing familiar things in an unfamiliar aspect. (Russell 1997, p.167)

For centuries, science was seen as the pursuit of certainty. The intellectual and philosophical Enlightenment movement of the 17th and 18th centuries in Europe centered the way toward this notion of truth (Mumford, 2003). Considering uncertainty a major drawback in positivist research (Van Asselt, 2010). Instead, in the field of sustainable education, uncertainty appears precisely as a vital engine for research. It is conceived as what makes a problem a problem. If you already know how to move from A to B, then you don't have a problem at all (Beghetto, 2017). On the research path, uncertainty recalls what we fail to manage, and in an attempt to understand it, we take a cognitive and pragmatic path of management (Gordon, 2007). Even from a psychological point of view, uncertainty or ambiguity tolerance refers to people's ability to deal with new and unfamiliar situations (Michalik 2019, 2022). So although it can be uncomfortable, uncertainty provides an opportunity to

critically examine our beliefs and choices, to question, and gain knowledge by earnestly grappling with complex questions (Mohr Lone & Burroughs 2016, p.3). And thus the possibility of learning to deal with ambiguity and undefined problems that turn out to be the most essential ones in people's lives. Learning to cope with uncertainty, with ambiguity and indefinite questions becomes essential then for students (Bolhuis 2003). Having the ability to adapt to change, generate new knowledge, and continuously analyze feedback is retained crucial for education (Fraser & Greenhalgh, 2001).

Yet, in the educational framework many times the school curriculum is structured in a way that uncertainty is not present in the learning environment. On the contrary, the exact question and the correct answer do not tolerate the ambiguity of complex, unsolved problems (Dumont, Instance & Benavides, 2010; UNESCO, 2015). Instead, learning to manage uncertainty requires educational environments that tolerate, or even invite, uncertainty into the learning process. This need has also been pointed out by Gordon (2006) in welcoming confusion and embracing uncertainty in learning, by Barnett (2012) in pedagogy for super complexity, by English (2013) in the need for discontinuity in learning, and by Buckingham (2014) in the concept of productive epistemological chaos.

Unlike an education based on certainty and the reproduction of knowledge for evaluation purposes, part of the field of sustainable development education has introduced complexity, controversy, and inquiry emerging from issues relevant to the environment, natural heritage, culture, society, and the economy (Wals & Corcoran, 2012). Sustainability challenges often cannot be solved in hypothesis testing, for the simple reason that there is no right answer to be found. No matter how much time and resources are available, the situation is too complex and uncertain to have complete knowledge (Tauritz, 2019). Thus arises the perspective that considers focusing on processes and the knowledge it gives, rather than the outcome (Kohan, 2012). From this perspective uncertainty exists at different levels in teaching and learning about topics such as climate change, and is clearly a key concept within these subjects.

Several authors have listed and described design principles for an educational approach that recognizes uncertainty as an essential driving force in teaching. Creating spaces for perplexity, where students can explore new possibilities for thought and action with the goal of fostering citizens who can cope with an uncertain world (Gordon, 2006; English, 2013). But learning to deal with uncertainty requires certain kinds of learning environments. Some authors (Gordon 2006; Barnett 2012; Hall 2006, Davies 2012; Tauritz 2012, 2016, 2019; Michalik 2022) have described them as safe learning environments where students can discuss multiple perspectives and where judgment is suspended. Where students can accept that for most complex problems there is no single right answer; process-centered and open-ended approaches to teaching, critical inquiry; collective meaning-making and reflective practice; where students engage with multiple perspectives and intellectually challenging tasks.

Within these learning environments, the P4C methodology is one that offers a space and a way of approaching a process of philosophical inquiry that includes uncertainty as a key element (Birch, 2020). Because it addresses open questions, philosophical questions to which there are no a priori definitive answers. It is the collective engagement that makes it possible for a philosophical question to be understood and transacted, particularly when these are of the most essential questions of human beings (Barreneche & Santi, 2022). In the community of philosophical inquiry, discussion brings an awareness of oneself, of human relationships, and with the world (Michalik, 2019). It promotes active and flexible engagement and embraces plurality and diversity by recognizing the positive contribution

others can make in addressing the problem. It also presents itself as an ontological challenge to epistemological assumptions about the world and highlights the limits of understanding (Hayden, 2012).

There are several empirical studies that demonstrate the specific potential of philosophical inquiry for new forms of teaching and learning about uncertainty (Rowley, 2004; Hayden, 2012; Birch, 2020). Such as the one conducted by Michalik (2019) in German elementary schools, which provided some evidence that children deal with the uncertainty of philosophical inquiry in a positive and playful way and that it creates an opportunity for teachers to rethink and change their ideas about children, teaching, and learning in general. A particularly positive aspect that children identified in P4C was that there were no definitive answers and thus the outcome of the discussions was not prejudiced. The openness of philosophical questions and discussion topics were seen by students as an opportunity to expand or modify their thinking. The exchange of views with other children, the collective search for meaning and significance, was also particularly helpful when it came to dealing productively with uncertainty (Michalik, 2022). Thinking together about an issue challenges children's thought processes and develops their individual views and opinions (Michalik, 2019). This is how philosophy has been shown to be an interesting way to help students develop an even anxiety-free approach to openness and uncertainty (Wals & Corcoran, 2012).

Creating learning environments that include uncertainty can become a clue to letting go of the obvious and creating new understandings. The unknown will then not be perceived as something to be feared, as long as the tools to deal with it are available (Tauritz, 2019). In the case of educational work, uncertainty can be a catalyst for creative action and curiosity. Empathizing with different perspectives, cultivating an inquiring mind, accepting that we do not know what will happen, reasoning logically and reflecting together with others (Michalik, 2022). Therefore, P4C is proposed here as a guided school experience of dialogue in communities of inquiry, introducing a dialogic way of dealing with uncertainty (Barreneche & Santi, 2022). Where students have the possibility of having a diverse perspective of uncertainty, so much needed in a world where anxiety, fear of future and lack of coping strategies to address life-matter problems is a common denominator for so many young students.

3. P4C in High School, an uncertain experience

In the field of sustainable education, it has been demonstrated how when students understand that uncertainty is an intrinsic part of an issue, they develop a significantly different perspective on the topic recognizing the complexity of it (Hall 2006). And also how certain learning environments, such as the Philosophy for Children methodology, embraces the possibility of coping with uncertainty (Tauritz 2012, 2016).

In the doctoral thesis of Tauritz (2019), he develops a study that conducts in the identification of what he named uncertainty competences (Tauritz 2019). The central aim is the need to prepare young people for complex and supercomplex decision-making, with people with different perspectives, cultivating an enquiring mind, accepting not knowing what will happen, and being able to use uncertainty as a catalyst for creative action. To accomplish this aim, the development of capacities that include specific sets of attitudes and capabilities needed to handle uncertainty, ambiguity and complexity. Accordingly Tauritz developed seventeen competences divided in three categories in which he demonstrates that learning how to manage uncertainty involves not only learning how to

reduce it, but also accepting that it may not be possible to eliminate it all. That being the case, learning how to be comfortable when faced with uncertainty in order to respond effectively becomes an important strategy for dealing with complex challenges. And even learning to cherish uncertainty becomes equally important (Tauritz 2019).

The seventeen skills are divided in three categories (See Tab 1). In the first category “Learning to cherish uncertainty” the first three refer that uncertainty is not needed to be reduced, or merely tolerated, but is something that can be embraced. Uncertainty and ambiguity are viewed as opportunities to have inquisitive and creative mindsets. The second category -and second three skills- “Learning to tolerate uncertainty” refers to letting go of the continuous need for certainty. The ability to adapt to change and openness to differing perspectives are central to learning to tolerate uncertainty. Lastly, the eleven remaining competences are categorized as “Learning to reduce uncertainty”. All support the individual in reducing knowledge uncertainty by, for example, gathering and evaluating information, assessing the urgency, reasoning, and working in teams to resolve problems. The seventeen uncertainty competences compose a listed set of test items that can help analyze the development of such skills. The internal validity of the test responds to the self-perception and self-evaluation of the students in relation to the educational practice and to the items identified from the seventeen competences.

1. Uncertainty Competences (Tauritz, 2019)

N°	Category	Competence
1	Learning to cherish uncertainty	Being able to use uncertainty as a catalyst for creative action
2		Being able to empathize with people with different perspectives
3		Being able to 'entertain' an enquiring mind
4	Learning to tolerate uncertainty	Being able to accept not knowing what will happen
5		Being able to reflect on and change one's beliefs regarding uncertainty
6		Being able to employ lateral thinking
7	Learning to reduce uncertainty	Being able to prioritize ('triage') among many urgent issues
8		Being able to find, evaluate and utilize information (specific knowledge)
9		Being able to judge the credibility and cognitive authority of information sources
10		Being able to reason (inductive and deductive reasoning)
11		Being able to respond in accordance with the underlying probabilities
12		Being able to employ previous experience
13		Being able to assess one's own ability to achieve a desired outcome
14		Being able to engage a supportive network
15		Being able to formulate a plan of action to deal with uncertainty
16		Being able to work in, and contribute to, teams with mixed skills and experience
17		Being able to use one's intuition as a source of information

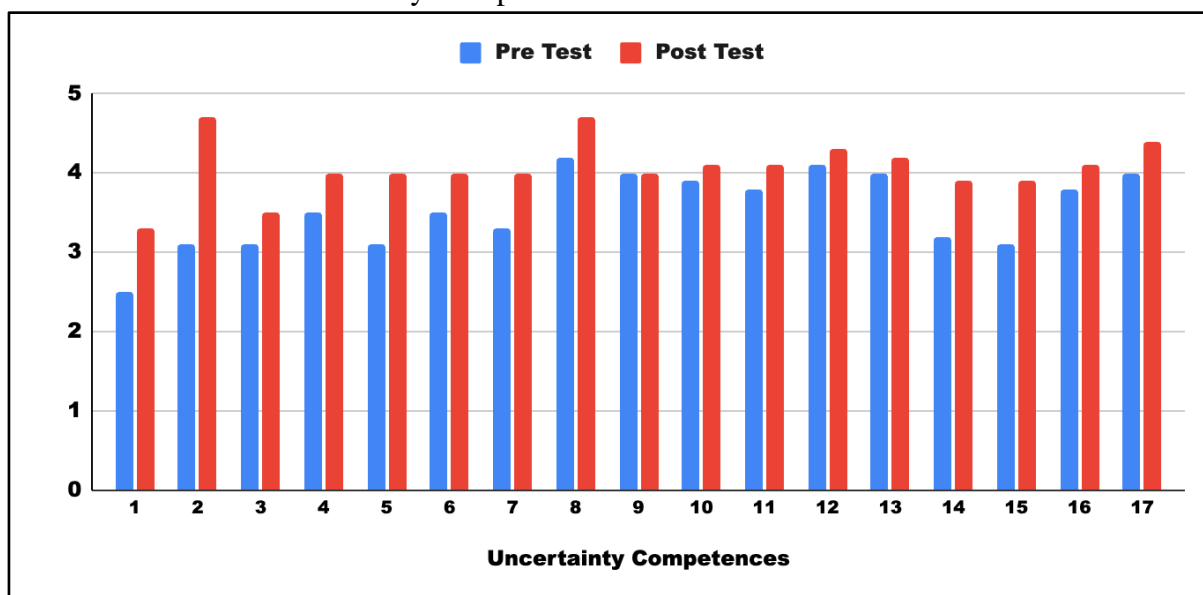
In an exploratory study with a senior year of a public school in the city of Washington DC, an experience of P4C sessions was conducted for the total three months. With three classes of 27, 31 and

30 students each, 9 P4C sessions were done per class. The initial hypothesis of the study was that P4C develops a way of coping with uncertainty that is intrinsic to its methodology. And that can be demonstrated in the development of the uncertainty competences auto-evaluated by the students themselves.

From this starting point, the development of the skills were evaluated, analyzing the possible evolution between the first test provided after the first P4C session, and the last one. Adding as well the complementary class observation and the in writing justifications of the answers of the students. The test provided was built from a likert scale from 1 to 5, in which the students had to indicate on each item if they strongly disagree (1) or strongly agree (5). Each question corresponded to each uncertainty skill, indicating the student to confirm or deny the statement of each competence being developed throughout the practice of P4C in the classroom.

The general analysis variable is the development of these competences according to the students' self-assessment of the P4C practice. And this variable is in turn sub-divided into the three categories of Uncertainty competences already mentioned. The results of the pre- and post-test are shown in the following graph (1), where the scale is represented on the vertical axis and the response on the horizontal axis.

1. Pre and Post Test - Uncertainty Competences



As can be observed, the mean starts in its blue representation, in the pre-test, located in most of the competencies on a high level within the scale. It is significant that in the first session the mean is high, and that in each item the variable has an increasing value when evaluating the last session. The conclusion here would be that as the P4C sessions go by, the mean increases. Suggesting that there is within the practice an increase in cherish, tolerate and reduce uncertainty.

On the first set of skills -learning to cherish uncertainty- it can be seen how it has increased mostly regarding empathizing with other people's perspectives (item 2). Thus inferring that in facing the problem posed, the value of others increases, because it increases the perspectives and the possibilities of solving it. And because it is appreciated the help of others to cope with uncertainty. In the justifications, the students point out: *“I was unsure with the judgment of other classmates but listening*

to other perspectives and empathizing with them helped me develop my position”; *“Even if I didn’t understand, I would be able to understand through other people’s explanations and thoughts*”; *“For certain discussions, i feel my own lack of knowledge of the issue was expanded upon ideas of others”*

On the second set of competences -learning to tolerate uncertainty- we can see the tolerance to uncertainty increases in all three items, especially the one referring to the ability to reflect, even if uncertainty, about the questions and answers (item 5). In the students words: *“There were not always answers to problems and we had to accept that”*; *“it’s frustrating not being able to end in a solid solution to a question that affects individual people, large communities, or the world, but it is important the process of trying together”*; *“The process of finding a solution to the question prompted more reflection than actually reaching an answer”*; *“i could use other responses to help my own”*; *“We were always uncertain about our solutions but we were happy to have worked hard together to incorporate everyone’s passions and focuses”*

Moreover, not knowing the final answer and lateral thinking also show slight increases in the ability to tolerate uncertainty (item 6). Some of the students justify by saying: *“there were different paths we took during a single question”*; *“We were able to think outside the box for the class discussions”*; *“I became more confident in sharing diverse thoughts as the discussion progressed”*; *“Even though I was confused at the beginning of a topic, listening to my classmates perspectives forced me to think in different ways”*.

Regarding the third set of skills - learning how to reduce uncertainty- it can be seen how prioritizing ideas, evaluating and using information, and reasoning to reach possible conclusions seem to have been important in the P4C experience (item 7 and 8). *“We would always consider which ideas are most relevant to draw a conclusion for our ideas”*; *“Our discussions brought many different ideas to come to a conclusion”*. In addition, thinking about different probabilities, arriving at possible conclusions are also significant (item 11 and 13) *“For every topic we usually all came to a consensus on what we thought of the situation which allowed us to go into a direction together towards a solution”*. Emphasizing also the value of others in reaching possible conclusions. *“Each person was a possibility”*; *“I was able to think about ideas on my own but also with the help of others”*; *“Other people’s varying ideas changed and deepened my opinions”*; *“I had to judge the reliability of other opinions before forming my own”*.

There is an increase as well in reducing uncertainty through engagement with a classroom support network (item 14). The students state: *“Everyone in the class seemed to work well alongside each other without much issue”*; *“Environment was supported and promoted thinking”*. Furthermore, being able to have a plan of action, one's own experience, capabilities and intuition to cope with the problem (item 12, 15 and 17) had its increase as well: *“I was able to use past experiences to help come to current conclusions”*; *“I think everyone employed their experiences and beliefs to help achieve a conclusion”*

Through the results of the test and the students' justifications, we can observe how there is an evolution between the first and the last session with respect to each uncertainty competence. Arriving like this to a possible conclusion that this practice can collectively dispose of an educational environment that develops the skills at a personal level.

Regarding the experience in general, the students were asked to choose a word to evaluate and describe the P4C sessions in one word. "Thought provoking" and "Collaborative" were the two most mentioned (with 18 mentioned each). Followed by "engaging" (17 times) and "Open minded" (11

times). All words that are significant in describing what the P4C practice aims at. A practice that engages a group of students to think collaboratively about a problem, broadening the mind and reaching possible conclusions.

The experience carried out, as an experiment, undoubtedly has many edges to be further deepened. However, it is significant that the students' responses and conclusions can give us strong indications that P4C can develop a type of experience that educates in coping with uncertainty with others. And thus, suggesting not only a collective way in which students address a common question, but also a methodology that includes, works and it is developed in the uncertainty of unfinished answers. Such as the world we live in.

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