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TEACHING PHILOSOPHY AND ENACTIVISM

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ABSTRACT. The paper presents a concise history of enactivism in education, especially in mathematics education. Cases described by Davis's, Proulx and Simmt's work showcase the idea that enactivism is a viable alternative to constructivism or to classical views both in terms of practical teaching and theoretical models related to the process of learning. The idea that the student should solve a fixed problem, discover the universally correct solution, and eventually store that correct solution to find many other universally correct solutions to other fixed problems reduces the student to a very simple mechanism aimed at informational efficiency. This problem is met by the enactivistic tradition that began with Varela and Maturana's work, now updated to the aforementioned researchers. Contra the classical perspective, enactivism proposes the idea that the student collaboratively produces the problem, being able to see multiple solutions, and eventually becoming a performer of knowledge. The article takes these ideas developed in mathematics education and finds their use in philosophical education. The article especially focuses on the student's problem of being unable to link a new philosophical text discussed in class with their intuition. The last part of the article offers a lesson design example. The philosophical design focuses on making the students explore their own thinking regarding the topic about to be discussed by using a philosophy text before introducing the text.

Keywords: enactivism, phenomenology, philosophy of education, classroom design

Enactivism is a well-known theory in the cognitive sciences, built from concepts and ideas from Husserlian phenomenology. As a way of conceiving the knowing subject, enactivism is flexible enough to be an interdisciplinary endeavor. Enactivism is nowadays present in the scientific discourse of engineers, biologists, physicians, or teachers. The philosophical core of enactivism allows it to be ported into computer science research (Villalobos, Dewhurst 2018; de Carvalho, Kogler 2021), philosophical aspects of biology (Maturana, Varela 1987), or developing a new perspective on the educational process in various contexts (Davis, 1995; Begg 2013). This article discusses the input enactivism can have on the latter perspective: on the educational process, and in particular, on the philosophical educational process. We must mention that this lane of research is exciting because enactivism in education is not transformational only for the student but for the teacher as well (Brown, Coles 2011; Maiese 2017). Implicitly, there are two potential phenomenologies to be developed: the student's and the teacher's experience, as both designer and facilitator of such classes.

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1. Enactivism and education so far

Enactivism became involved in perspectives on education a couple of decades ago in the context of mathematical education. The main issue that was signaled was the limited understanding of mathematical concepts by students (Davis 1995). Davis, in particular, portrays the development of Jake, an underachieving seventh-grade student whose mathematical thinking develops, surpassing expectations throughout enactivism-minded mathematical classes. Instead of having students solve different exercises on their own, the enactivist classroom favors collaborative work involving the meaning mathematical concepts can have. The main difference between a regular classroom and such a classroom consists of changing the teacher's stance on truth. For instance, the class described by Davis on fractions does not have students add or multiply fractions. Instead, it asks students, "What can you say about 2/6?" (Davis 1995). Both underachieving and overachieving students react positively to this, in the sense of exploring the concept of fraction. In philosophical terms, we understand that, instead of making students use instruments they do not comprehend in their abstract essence, instead of making them use concepts without having intuitions of them, students are tasked with producing their intuitions regarding a concept that is initially alien to them. By doing this, we understand that overachieving students can use the given concept outside its original context, possibly in an interdisciplinary context. To keep the example, an in-depth knowledge of fractions, which relies on a so-called "reinventing the wheel" type of experience, facilitates the student's capacity to use the concept of fraction in any other intellectual or practical endeavor the future adult will take, be it a study on mereology or having an eye for mixing paint when redecorating.

The alternative Davis describes is deepened by Proulx and Simmt (2013). Their context includes a comparison between constructivism and enactivism. Even though constructivism and enactivism have partially different objectives and agendas for the learning student (Simionescu-Panait 2020), they maintain a visible competition. Proulx and Simmt's insight showcases three ideas on which constructivism and enactivism diverge. Under the enactivist lens, the student is no longer a subject that is given a fixed problem needing a solution, nor is the student given a chance to discover the correct solution in order to prove that they can efficiently solve that problem. Proulx and Simmt (2013) illustrate this idea with an example regarding two pairs of people dealing with a mathematical task. A father-daughter team and a mother-daughter team are given a box of dominoes and tasked with figuring out how many arrangements of domino pieces they can have if those arrangements are two units wide. Proulx and Simmt (2013; also Simmt 2000) observe that the two teams formulate the problem in two different manners. The mother-daughter team draws the possible combinations and, thus, uses a graphical, somewhat geometrical method of inventorying the possibilities. On the other hand, the father-daughter team uses an arithmetical method of keeping track, including a table detailing the combinations depending on the number of domino pieces used for the arrangement. We see that these two teams formulate different problems for their task: what are the appropriate drawings vs. what numbers should the table contain. Therefore,

their interpretations are different. The two teams become knowledgeable in different ways. We think that the efficiency constructivism focuses on is not an essential point for enactivistic teaching because efficiency and exploration often oppose each other. On the contrary, enactivistic teaching takes its students to be problem-producing, interpretation-redefining subjects that are not "storing" but performing knowledge.

Introducing enactivism to mathematics education is inspiring for the intention of introducing enactivism to other educational fields. Various efforts were made, such as research on enactivistic music teaching (van der Schyff 2015) or on technological instructional design (Li, Clark, Winchester 2010). We acknowledge the rising character of enactivism and its potential to be a game-changer in many pedagogical areas. This brings us to our current topic, which is philosophical education.

2. Enactivism in philosophical education

We assume that teaching philosophy is not unlike teaching mathematics. Just like students have difficulties with grasping abstract mathematical concepts while trying to instrumentalize them and solve various mathematical problems, so do philosophy students have difficulties with grasping philosophical concepts while trying to use them to enhance their thinking and self-reflection. A distance between the student and the concept is created, often by explaining the concept in a very abstract way in order to preserve its original meaning. Understanding a philosophical text usually revolves around the idea that the text shelters some fixed meaning. This meaning must be accessed by the student in an appropriate manner. Just like a good mathematics student correctly solves an exercise, so does a good philosophy student reproduce the correct interpretation of a philosophical text. Therefore, just like a good mathematics student does not necessarily understand the fundamental mathematical concepts at play beyond their immediate instrumentalization for solving various tasks, so does a good philosophy student not necessarily link various philosophical ideas to their questions and reflections. The position that welcomes enactivism in the case of teaching philosophy is this: the philosophy being taught is often divorced from the subject who is being taught philosophy as if the student's mind were just an owner of various philosophical ideas and not a performer of various ways of thinking, interpreting and questioning.

The work done in mathematics enactivist teaching gives us a first idea about how should the philosophical enactivist class be designed. This idea refers to the postponing of truth in the classroom. Philosophical classrooms usually use a philosophical fragment from an important philosopher. Then, the teacher explains notions one by one so that the text might make sense to students who otherwise only partially understand the text and its implications. The disconnection between the student's thinking and the philosophical idea occurs because it appears to the student that the idea is *already thought-out*. The only thing the student needs to do is to reproduce the thinking pattern in order to arrive at a similar thought-out idea. Therefore, the enactivistic thing to do here—in order to let the student formulate the problem in his or her terms, then struggle with

interpreting some answers, and then reflect on his or her own thinking process—is to postpone this moment where an already thought-out idea is presented to the student. By this postponing, we mean that we prioritize the student's effort to make sense out of words and phrases on their own yet in a collaborative fashion. Implicitly, we postpone the moment of revealing a philosophical fragment's standard interpretation.

We offer an example for such a classroom. Imagine you teach a class on Aristotle, book II from the Nicomachean Ethics. The standard route is to explain the main notions and the context: to tell a story of how some concepts work together in the Aristotelian framework. In a way, the teacher reanimates as best as he or she can the thinker's thought process. Postponing this story leaves us with a blank space for the student to think before encountering the other's thinking process, in this case, Aristotle's. This blank space is used precisely for a more enactivistic collaborative activity: letting the student define the problem, collaboratively observe and discuss the differences in formulating the problem, and then interpreting the problem. In our case, we do not introduce Aristotle right away. Instead, we introduce the concepts, and we discuss them without knowing Aristotle's take on them. For example, we start the classroom by asking about the similarities and differences between emotion and disposition. Our main concepts, emotion and disposition, can be understood by students without invoking a particular philosophy. Common day examples kickstart a discussion facilitated by the teacher. Some students understand the problem regarding emotion and disposition in terms of action: what roles do emotions and dispositions play for acting? Other students understand the problem in terms of thinking: do emotions contribute or hinder the disposition to think? The ambiguous nature of the task lets the students test their thinking on the spot. The cloud-based written support helps everyone have a clear picture of the main ideas being formulated. Interpretations coming from the classroom fill-up the blank document and help the teacher steer the discussion.

Despite setting up a ground of interpretation, the teacher does not have to proceed directly to revealing the class' main philosophical perspective: here, Aristotle's ethics. Instead, the teacher can further enhance the students' autonomous exploration by asking the students to question their colleague's perspectives. The point in this is to avoid the situation where students are convinced by a certain perspective and cease to think further because of having the impression that they found the right answer. By asking questions, students unlock their thinking and avoid falling to a convenient conclusion.

It makes sense from the enactivistic perspective to reveal the class' main philosophical perspective during the class' second half after students practiced the three main ideas of enactivism: defining problems, exploring interpretations, and being knowledgeable in a dynamic and collaborative way. In our example, Aristotle's perspective that virtue is a disposition and happiness is rather virtuous activity than emotion (*NE 1103b-1104a*) makes more sense for these students after discussing with them in their own terms about the basic concepts at play in Aristotle's perspective. Phenomenologically speaking, when a teacher presents the students with a strange concept out of the blue, the student's consciousness forms an

object retained as an "alien," "complicated," "abstract" object. The problem is that such an object is hard to reform. We have observed students retaining a strong impression from their first classes on philosophers like Aristotle, Kant, or Hegel. For them, these philosophies were "heavy," "full of entanglements," "very hard to understand and appropriate." For sure, these are no easy authors. However, students that remain with this strong impression will be affected by what Francis Bacon famously calls the idol of theatre (*NO 1:XLIV*). Thus enactivism anticipates and mitigates the student's possible reflective flattening. The student will be stuck, even haunted by the overwhelming nature of a heavy to understand philosophical perspective. By establishing a firm ground on common sense on which to deploy an established philosophical perspective, the student's encounter with that perspective will occur on an almost equal footing, which will allow the student to critically think about that perspective instead of struggling to produce a flawless interpretation.

3. Conclusion

We practiced the described classroom design to very good results in terms of having students become inchoate thinkers. Students attending such classes often confess having the impression of having thought about something they never thought about in a pleasant way. Most say that they found it hard in the beginning but enjoyed the process despite having difficulties, mainly because it gave them a sense of doing something with their own minds. Such feedback calls for further research that will involve the monitoring of these classrooms' effects on the student's long-term thinking. The main thing enactivistic philosophy classrooms want to cultivate, at least from our perspective, is the student's acquired taste for thinking. In other words, the underlying role of these classes is to have students enjoy thinking. Listening to evidence from enactivism and phenomenology is crucial for developing designs that take the student-teacher intersubjective experience seriously in order to make thinking enjoyable despite being difficult and requiring dedication and creativity.

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