

# Hypermedia Philosophy Teaching: An Approach

Andrews Jobim, Lucia Giraffa  
andrews.jobim@edu.pucrs.br , giraffa@pucrs.br  
Pontifical Catholic University of Rio Grande do Sul

**Abstract:** This paper proposes an educational framework for integrating digital technologies and teaching philosophy. It starts from the necessary identification to think of another type of theoretical contribution considering cyberculture. For this, it proposes the triangulation between the work of Deleuze & Guattari, Pierre Lévy, and Silvio Gallo, giving an account of thinking about a concept of philosophy, digital technology, and its consequences and teaching philosophy, giving theoretical support to teachers of his /her it. This proposal rigidly comes through the application of the Design-Based Research methodology, which, by applying two cycles with two philosophy professors, produced an activity capable of integrating digital technologies and philosophical contents efficiently and meaningfully.

## Introduction

Integrating the pedagogical use of digital technologies in philosophy teaching is a field of discussion. In a survey of works produced in the last five years, Sapienza and Pandolfi (2019), Gabriel et al. (2020), Mendes et al. (2020), Silva (2019), Godói (2020), Gomes (2020) found that students' experience in manipulating concepts in both non-digital and digital forms is necessary, especially in hypertextual format. Critical thinking must prevail in teaching processes and does not play a secondary role due to the use of technology. In addition to the exercise of critical reading and writing, digital literacy should also prepare students to transpose philosophical reflection beyond the citation of ideas, facts, and events, as is traditionally done, to the development of critical-reflective skills necessary in this cyberculture context marked by rapid changes and uncertainties.

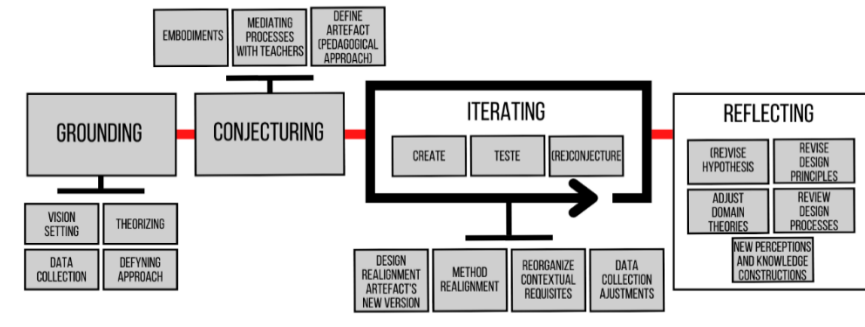
Thus, it is essential to think about this issue from a context of multiple languages because, as an intelligence technology that modifies thinking and the process of constructing meaning (Lévy, 1995), the text dominates philosophical practice. This structure has been widely used in teaching processes but is neither the only nor necessary. Today, we are moving towards an education based on knowledge organization in a hypertextual format expressed by networks (Lévy, 2000). Therefore, a new paradigm is needed to guide the teaching and learning processes in Philosophy.

## Methodology

This investigation employs the Design-Based Research (DBR) methodology using Hoadley (2003) and Edelson (2002) as references. DBR contributes to overcoming the dichotomy between qualitative and quantitative research and includes cycles of analysis, construction, evaluation, and debugging of artifacts to ensure their responsiveness to the identified problem. Lozada (2022) highlights that DBR is an approach that supports design principles to create collaborative pedagogical solutions more appropriate to the characteristics of the subjects and specific cultural aspects. We used two DBR application cycles; in the first, we carried out contextual analysis, creation, and validation of the initial version of the educational artifact developed, with two philosophy teachers as participants, intentionally chosen for their expertise with the method. This cycle took place through online meetings, where we discussed the plans and realigned the guidelines based on the context in which the second validation would occur. There were four meetings, with intervals of 15 days, in which the researcher refined the artifact based on the teachers' considerations.

The second validation cycle took place in a natural school environment, specifically in a class belonging to one of the teachers from the first year of high school at a private Brazilian school. There were a total of 28 students aged between 15 and 16. As the research took place in Brazil, the language used was Portuguese. The content of the discipline covered by the proposal was the political thought of Nicolau Machiavelli. This second validation included four consecutive interventions during the quarter of the course, each lasting 50 minutes. The effectiveness of the educational artifact evaluation occurs. The qualitative data collection instruments included the researcher's field diary (record of class events), the evaluation of the teacher responsible for the class, assigning a grade from zero to two points based on the student's performance, and an online questionnaire answered by students at the end of the activity, expressing their impressions about the proposal. Based on the analysis of the results, it was necessary to perform another round of adjusting the artifact. Figure 1 shows the organization of the methodology implementation process.

**Figure 1**  
*The DBR Implementation Process uses Hoadley and Campos's (2022)*



### Educational artifact resulting from the application of DBR.

The methodological proposal has four stages:

(1) Teacher Presentation of Content: The teacher effectively engages students and assesses their preliminary understanding of the problem context. This step should last up to 10 minutes.

(2) Challenge Phase: Students, organized into groups, must find evidence related to the exposed content using different media sources and discuss the results. The teacher must monitor the work, encouraging critical reflection

(3) Creative Stage: In this stage, we adopt Gallo's (2012) conceptual creation approach, which emphasizes students' expression of concepts through creations and experiments. At this stage, the groups choose a type of media to present the evidence found and explain its connection with the content presented by the teacher. In addition to philosophical provocations, the teacher must encourage the judicious use of technology. Students create their projects in class and can finish them outside of class.

(4) Closing Phase: In the final stage, groups share their creations, establishing a collaborative process where the class determines the most relevant evidence and the best media to express it. In addition to providing a synthesis and the possibility of clarifying any doubts, this set of steps breaks with the textual logic of manipulating concepts towards a hypermedia approach.

### Results

The following results refer to the analysis of data from the researcher's field diary, the teacher's evaluations, and the students' questionnaire responses collected during the application of the second cycle of DBR. It is essential to indicate that the crossing of data increases the consistency of the results since there was a low engagement in the questionnaires applied, especially in the discursive questions. The field diary states about student engagement: "The students demonstrated involvement, actively discussing the findings with their colleagues and the teacher. Their understanding agreed with Machiavelli's thinking and whether the evidence expressed the concepts." Regarding the results of the creations: "In general, the presentations presented evidence very aligned with Machiavelli's concepts, indicating that students were able to experience this author's philosophical problems and his creative process of concepts." It is essential to highlight that the researcher's impressions use his experience as a Philosophy professor, having expertise in the subject and the technological and methodological aspects of the proposal.

In line with the researcher's impressions in the field diary are the evaluations of the teacher responsible for the subject and the answers obtained in the online questionnaire. Table 1 presents the teacher's evaluations of the groups, including brief comments.

**Table 1**  
 Teacher's Discipline Evaluation

Group	Teacher's Comment	Grid
01	"Theory by the studied. Presentation as expected and creative."	2.0
02	"Limited familiarity with the theory, with text reading and few explanations. Absence of a group member."	1.4
03	"Excellent presentation and theoretical mastery."	2.0
04	"Theory with difficulty in the 'offending too much' aspect. Okay."	1.7
05	"Good theoretical understanding, but a somewhat forced association with the chosen film."	1.8
06	"Correct presentation but somewhat shallow."	1.7

This table summarizes the teacher's evaluations for each group, providing comments on alignment with the theory studied, the quality of the presentations, and any notable strengths or weaknesses. Grades are assigned to quantify the overall performance of each group. The crossing of the three data sources shows a convergence in the impressions of the subjects involved in the activity. The researcher observed increased appropriation of the content as the activity progressed, culminating in presentations consistent with the content worked. The teacher gives the same impression when presenting his opinion that there was a good understanding of the students, with minor variations in deliveries, resulting in a slight variation in the grades awarded. Finally, most students claim to have understood the content covered, some with greater conviction than others, precisely in line with the variation in grades obtained.

We realize students feel insecure when thinking about content outside the school environment. He corroborated the researcher's impression when he noted in his diary: "The groups seem to have difficulty starting work without encouragement. The tension of understandings must be constant." This student's behavior confirms Gallo's (2012) and Deleuze's (2018) understanding of learning, in which it is necessary to tense thinking by posing a problem to overcome. However, this conflicts with what the teacher reported, that a culture of grades prevails in the school environment, which encourages students to make as little effort as possible to obtain the grades necessary for approval. The difficulty for students to situate the knowledge learned compared to outside the school context was pointed out by students in the questionnaire: "being able to relate it to something concrete" and "the part of choosing what to present." These results indicate that the proposal developed may have yet to overcome this characteristic present in the dynamics of school learning. In addition to the tension at the beginning of the activities, the researcher's field diary indicates that the students were trapped in behavior patterns specific to traditional lecture models, presenting difficulties in taking an active stance in the process: "Some students expected more explanations of the content and indications of where to carry out your searches, revealing a greater dependence on the figure of the teacher." The tension between the current school dynamics and the proposal based on hypertextual models, which encourage greater subject autonomy (Lévy, 1995; 2000), becomes apparent. It is an important aspect to be worked on in hypermedia approaches to concepts, aiming to offer a favorable environment for the whole exercise of freedom. When asked what was most interesting about the proposal, the students highlighted the dynamics of the activity, according to the following reports: "the use of technology and also how much Machiavelli has in everyday life," "the different ways of presenting content," "using a Machiavelli game/series," "the dynamics," "finding some relationship with something in our lives current, such as a game, a series, a book, and other resources," "the freedom of students to learn how and perform the work," "the fact of using the internet to learn," and "the comparison of Machiavelli's thought with everyday life, making us realize the importance of philosophy."

## Design principles

Based on the analysis of the results and the dialogue with the teachers who participated in the co-creative process, five design principles guided the development and application of the educational artifact created. Are they:

(1) Rethinking the experience of philosophical problems through the active search for evidence in cyberspace and the manipulation of concepts through their expression through hypermedia resources seems to be efficient in apprehending concepts in a meaningful way, integrating the approaches of Deleuze & Guattari (2010), Gallo (2012) and Lévy (1995; 2000).

(2) Leaving the comfort zone: As foreseen in the planning meetings with teachers, leaving the students' comfort zone was necessary due to the nature of the pedagogical proposal. The integration of digital technologies in philosophy teaching must undergo this, as it involves an unconventional use of digital resources, leading students to critically reflect on them and act and act autonomously.

(3) Time and technology: Considering the relationship between time and technology in proposals to integrate digital technologies into teaching is crucial. This relationship happens because the resources used in part of students' daily lives may go beyond their prior knowledge, requiring a period of learning for them to use the tool as proposed.

(4) Process and tension: The teacher needs to monitor and tension the experimentation, technological reframing of problems, and conceptual creation processes. Otherwise, students may resort to practices established from their experience, whether in the unreflective reproduction of the teacher's discourse or the instrumentalization of digital technologies.

(5) Freedom: The freedom to experiment creates a proposal to integrate digital technologies into philosophy teaching. Freedom plays a fundamental role in the meaning of processes, both in the sense of experiencing philosophical problems (Gallo, 2012) and in the exploration and production of meaning in cyberspace (Lévy, 2000). Therefore, it is essential to guarantee an environment conducive to free exploration,

encouraging inspiration for creative processes to flourish, unfolding and solving problems in the form of concepts.

## Conclusion

The challenge of integrating digital technologies in education is a contemporary demand. Although it is not a new field of research, the acceleration of advances associated with digital technologies and recent transformations, such as the COVID-19 pandemic, have necessitated practical and current solutions to this issue. Focusing on the thematic scope of the Philosophy discipline, this study aimed to present a methodological proposal that transforms the traditional textual approach for the hypermedia format. Students engaged in a comprehensive exploration of philosophical problems and manipulated concepts through different "languages" (multimodal aspects), allowing them to question their world and their knowledge actively. The role of the teacher becomes that of "a provocateur" and not "a transmitter" of information. This experience demonstrated that it is possible to integrate digital technologies and the teaching of philosophy, considering contemporary languages without losing what is most important: conceptual construction, the basis of the philosophical field, due to the school schedule and bureaucratic aspects during the study, which ended up making a third validation cycle unfeasible. A future discussion challenge is to adapt the model proposed here to other curriculum subjects; since the present study focuses on a subject with specific characteristics, it can be adapted to other fields of knowledge because it affects the methodological aspects, not specific content.

## References

- Deleuze, G., & Guattari, F. (2010). *O que é a filosofia?* São Paulo: Editora 34.
- Edelson, D. C. (2002). Design research: What we learn when we engage in design. *The Journal of the Learning Sciences*, 11(1), 105–121.
- Fahd, K., Miah, S., Ahmed, K., Venkatraman, S. & Miao, Y. (2021). Integrating design science research and design-based research frameworks for developing education support systems. *Education and Information Technologies*, p. 1-22.
- Gabriel, F. A., Mendes, A. A. P., & Araújo, A. S. (2020). Ensino de filosofia no ensino médio mediado por tecnologias digitais como problema filosófico. *Revista do NESEF*, 9(1). 14-17.
- Gallo, S. (2012). *Metodologia do ensino de Filosofia: Uma didática para o ensino médio*. Papirus Editora.
- Godoi, F. P. (2020). *Ensino ativo de Filosofia: aliando a pedagogia do conceito com tecnologias digitais*. Universidade Estadual Paulista “Júlio Mesquita.”
- Hoadley, C. & Campos, F. (2022). Design-based Research: What it is and why it matters to studying online learning. *Educational Psychologist*, 57:3, p. 207-220.
- Hoadley, C. (2003). Design-Based Research: An Emerging Paradigm for Educational Inquiry. *Educational researcher*,32:1, p.5–8.
- Lévy, P. (1995). *As tecnologias da inteligência*. Editora 34.
- Lévy, P. (2000) *Cibercultura*. São Paulo: Editora 34.
- Lozada, C. O. (2022). Using Design-Based Research in a computational thinking and programming course with Pedagogy student. In: *16th International Conference of the Learning Sciences (ICLS)*, 2022, Tokyo - Japan. 16th International Conference of the Learning Sciences (ICLS) Proceedings. Tokyo: ISLS. v. 1. p. 1409–1412.
- Mendes, A. A. P., Gabriel, F. A., & Araújo, A. S. (2020). O ensino de Filosofia no nível médio: tecnologias digitais e práticas pedagógicas inovadoras. *Revista Digital de Ensino de Filosofia-REFilo*, 6,
- Sapienza, R., & Pandolfi, M. A. C. (2019). O desafio do ensino de Filosofia na era da tecnologia da informação. *Revista Interface Tecnológica*, 16(1), 337-348.
- Silva, C. (2019). *Utilização das tecnologias de informação e de comunicação nas aulas de Filosofia no ensino médio*. Universidade Federal de Goiás.