INCLUSION AND COEXISTENCE: A COMPLEX BLENDED DISCIPLINE IN A TRADITIONAL CURRICULUM

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ABSTRACT

This paper aims to report the experience, assess the results, and interpret the educational implications of offering a complex blended discipline as part of an undergraduate English Language Course with a traditional paradigm as its main educational orientation. This discipline was taught by a teacher-designer who was grounded in the complex educational design (Freire, 2013, 2018; Freire & Sá, 2020), and who could cope with the institution's requirements to meet the students' needs, expectations, and interests, as well as with the goals established for the specific curricular unit. Among the educational implications discussed, the findings of this study prompt reflections on the inclusion and coexistence of a complexity-based discipline in a traditional curriculum, suggesting that the thought reform, as claimed by Morin (2005), may begin to be implemented.

KEYWORDS: COMPLEXITY; COMPLEX EDUCATIONAL DESIGN; THOUGHT REFORM.

RESUMEN

El objetivo de este artículo es informar sobre la experiencia, evaluar los resultados e interpretar las implicaciones educativas de ofrecer una asignatura semipresencial como parte de un curso de licenciatura en Letras-Inglés que tiene como orientación principal el paradigma tradicional. Esta asignatura fue impartida por una profesora-diseñadora que, basándose en el diseño educativo complejo (Freire, 2013, 2018; Freire y Sá, 2020), abordó los requisitos institucionales para satisfacer las necesidades, expectativas e intereses de los estudiantes, así como los objetivos definidos para esa unidad curricular específica. Entre las implicaciones educativas discutidas, los hallazgos de este estudio promueven reflexiones sobre la inclusión y coexistencia de disciplinas basadas en la complejidad en un plan de estudios tradicional, sugiriendo que la reforma del pensamiento, como sugiere Morin (2005), podría comenzar a implementarse.

PALABRAS CLAVE: COMPLEJIDAD; DISEÑO EDUCATIVO COMPLEJO; REFORMA DEL PENSAMIENTO.

RESUMO

Este artigo tem por objetivo relatar a experiência, avaliar os resultados e interpretar as implicações educacionais de oferecer uma disciplina semipresencial como parte de um curso de graduação de Letras-Inglês que tem no paradigma tradicional sua principal orientação. Essa disciplina foi ministrada por uma professora-designer que, fundamentada no design educacional complexo (Freire, 2013, 2018; Freire & Sá, 2020), observou os requisitos institucionais para atingir as necessidades, expectativas e interesses dos alunos, bem como os objetivos definidos para aquela unidade curricular específica. Entre as implicações educacionais discutidas, as descobertas deste estudo promovem reflexões sobre a inclusão e coexistência de disciplinas baseadas na complexidade em um currículo tradicional, sugerindo que a reforma do pensamento, como sugerido por Morin (2005), poderia começar a ser implementada.

PALAVRAS-CHAVE: COMPLEXIDADE; DESIGN EDUCACIONAL COMPLEXO; REFORMA DO PENSAMENTO.

Introduction

Many arguments have been made to elicit the urgent need to evolve from the prevailing to the emerging educational paradigm. As Moraes (1997, 2008) has emphasized, the established paradigm, known as *the Cartesian-Newtonian or traditional paradigm,* has been gradually revealing its weaknesses in providing suitable responses to the contemporary issues of a changing world. This epistemological fragility may be attributed to its linear, fragmented, and disciplinary pattern of perceiving and dealing with knowledge, which is conveyed in a sequential and orderly manner. From this perspective, knowing is often reduced to a straightforward cause-and-effect relationship that results in an objective, measurable, generalizable outcome: the mere sum of its constituent parts. Such a simple-minded view engenders reduction, disjunction, and a duality perception of reality.

An emerging paradigm has been gradually but vigorously taking shape, claiming the need for what is called *complex thought*[1]. Edgar Morin (2005, 2008a, 2008b) – *the complexity craftsman* - understands this construct as a way of thinking that is grounded on three epistemological roots: *complexity* (that denies reduction and emphasizes recursivity); *instability* (that contradicts stability and stresses non-totality, non-completeness); and *intersubjectivity* (that refuses knowledge as a unilateral concept objectively perceived).

On account of such a way of perceiving reality, Freire (2011, p.272), based on Morin (2005, 2008a, 2008b), stresses that complex lenses:

- provide unique possibilities to integrate the *subject* and the *object,* which used to be paradigmatically separated,
- establish a dialogue between opposite but complementary constructs,
- conceive of a simultaneous relationship between *single* and *multiple,*
- envision a non-conclusive totality in which, due to emergencies, the whole is simultaneously more and less than the sum of its constituent parts,
- substitute linear causality for circularity, considering that effects may act back on causes and feed them back,
- experience non-fragmented knowledge and distinguish the network in which it is constructed in a transdisciplinary way,
- recognize the need to consider and deal with disorder, uncertainty, unpredictability, and ambiguity, and
- unveil open systems are unstable and autopoietic.

1 In this article, *complex thought*, *complexity*, and *epistemology of complexity* are synonyms.

The features above illustrate complexity development when confronted with the way of thinking portrayed by the traditional paradigm. The complex pattern of reference now available is made of four interwoven cognitive and operational principles that, according to Morin (2015), not only clarify but also materialize complexity:

- *the dialogical principle* allows a confrontation between opposite but complementary notions,
- *the recursive principle* establishes a spiral, retroactive interconnection between cause and effect, producer and product,
- *the hologrammatic principle* refers to a reciprocal connection between the whole and its parts, asserting that the whole is in each part and each part is in the whole, just like in a hologram, and
- *the systemic principle* indicates that the whole is formed by parts that interact (internally) among themselves and simultaneously (externally) with other open systems.

While complexity has been depicted and recognized lately, it is not widely accepted as the leading epistemology. It is more convenient to state that we are crossing a paradigmatic transition phase, since the traditional pattern is still adopted in many contexts, while the complex one is emerging in others. This seems to be the prevailing scenario when examining current social and educational contexts.

Social settings seem somewhat more flexible and sensitive to changes since they tend to be assimilated more easily. Complex thought has been adopted by society and, as reported by Mariotti (2010), has become integrated into personnel and organizational development, as well as providing the business field with unique orientation and management reference patterns. School settings, in contrast, seem to be more traditional and austere to changes of any sort. They tend to preserve practices, methodologies, and materials; changes in procedures are more likely the result of top-down, long-term discussions that reach teachers and students with little or no adequate preparation. In general, when a transformation comes to practice, it is not a rare kind of outdated, at least, it is still this way in many Brazilian educational contexts lately.

The research presented here focuses on a controversial scenario in which traditional and complex orientations were adopted and coexisted somehow. This study aims to report the experience, assess the outcomes, and interpret the educational implications of offering a complexity-based blended discipline as part of an undergraduate English Language Course predominantly founded on the traditional paradigm. This discipline was taught by a teacher-designer[2] who was grounded in the *complex educational design, CED* (Freire, 2013, 2018; Freire & Sá, 2020), and who could cope with the institution's requirements to meet the students' needs, expectations, and interests, as well as with the goals established for the specific curricular unit. Among the educational impacts discussed, the findings of this study prompt reflection on the value of incorporating a complex discipline into a traditional curriculum and on the possibility of achieving harmony among disciplines grounded in diverse theoretical orientations, eventually promoting the *thought reform*, as claimed by Morin (2005). Considering the current paradigmatically ambiguous scenario, this discussion assumes pivotal educational relevance.

2 The term *teacher-designer* was adopted to emphasize that, in the institution in focus, blended disciplines have been designed and taught by their assigned teachers.

Report on experience

The blended discipline[3] examined in this study is offered in the second term[4] of the undergraduate English Language Course at a university in São Paulo (Brazil). During the planning of a curricular reform, the institutional commission responsible for this process posited that by providing students with a more immersive online experience and enhancing their technological expertise, they would prepare them better for their future professional careers. Blended disciplines were therefore included in the regular Language Course curriculum, with the same status, course load (40 hours), and all requirements of other disciplines of the course.

This discipline aimed at developing written comprehension and text production related to information and facts available on the Internet. According to its original course plan, students were expected to reflect upon the English language as a tool of interaction and communication to understand the world and to comprehend others and their relationships in the Internet context, as well as to conceive of this foreign language as a social, historical, cultural, political, and ideological phenomenon within the web environment. Students were expected to engage in reading, writing, and conducting research using online resources. The syllabus of discipline comprised reading strategies, levels of reading comprehension, distinction and depiction of texts and hypertexts, perception of distinct ways of conveying meaning through various interfaces, contrasts between printed and online materials, and the production of a variety of text types. In addition to these contents, the syllabus addressed a series of linguistic components (e.g., verb tenses; sentences and phrases; comparative, argumentative, and evaluative structures, among others), which should be implicitly addressed, aiming at the internalization of grammar.

These overarching objectives were defined when the blended disciplines were integrated into the Language Course curriculum, and the Moodle platform was chosen as the online learning environment to host them. At that time, the discipline's first design had a Vygotskian orientation (Vygotsky, 1998), which emphasized knowledge construction through social interaction. Building on this theoretical foundation, readings, reflections, and linguistic activities, whether requiring customized feedback or utilizing automated responses, were typically incorporated into forum discussions.

Over time, however, the original design was modified in response to students' feedback and the input of various teachers responsible for the subject. Semester after semester, various modifications were introduced, and the discipline, while striving to maintain its original objectives, gradually lost a clear theoretical foundation and retained little of its initial configuration.

In addition to changes in content, the online format quickly became standard practice, leading to complaints. On the one hand, the students criticized the nature of activities (in general, readings followed by comprehension questions and structural exercises); the short deadline to accomplish them (a week); the frequency of mandatory forum discussions (which require at least one original content-based comment or a response to a previous post each week); the *absence* and *silence* of some teachers; and finally, a perceived lack of relevance of the blended disciplines and of relationship between them and the face-to-face ones attended in the same school semester.

3 For ethical considerations, the name of the discipline has been omitted.

4 Each term corresponds to a four-month academic semester.

On the other hand, teachers expressed regret over what had come to be known as "the Moodle courses." They felt overwhelmed by tight deadlines and the constant demand to provide feedback and mediate forum discussions almost every week. Furthermore, each teacher was responsible for more than one blended discipline per term, with at least 30 students in each group. Considering this group depiction, any delay in providing feedback meant additional work later, which in turn led to more well-founded complaints from students. Teachers' routines became an endless cycle: the more they did, the more they had to do — and the more they had to ask students to do — because they were working within a ready-made course designed for prompt, short-term feedback. Faced with such a heavy weekly workload, they had no time to reflect or make the necessary adjustments to meet students' needs and expectations.

I can describe this situation and the feelings it evoked, as I was involved in teaching blended disciplines on multiple occasions. I resented two specific features of the discipline: first, the time constraints that prevented consistent modifications throughout the semester to support the students' development, as well as meeting their needs or reaching their objectives. On the other hand, I found it impossible to consider my own representations and expectations, since I was also part of the teaching–learning process. I felt like a feedback machine; yet, as a partner in knowledge construction, I wanted to play a more meaningful role.

Apart from the discomfort caused by what the discipline had become, the role demanded from the teacher to play contradicted the Epistemology of Complexity I was investigating at that time. Then, inspired by Edgar Morin's concept of complexity, I decided to try reversing the situation in some way. Such a decision led me to conceive of and apply the *complex educational design – CED* (Freire, 2013, 2018, Freire & Sá, 2020), which seemed to be able to provide the responses I was seeking to *complexify* the blended discipline in focus and solve part of the issues the students and teachers complained about, as addressed in the following section.

Complexifying a blended discipline

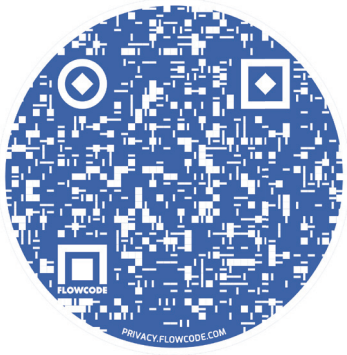
The Complex Educational Design (CED) is conceived as three inseparably interconnected components — *preparation*, *execution*, and *reflection* — that aim to manage the predictable aspects of course design, while acknowledging that unpredictability always persists at its periphery (Freire, 2018; Freire & Sá, 2020). The CED starting point — *preparation* — covers from the preliminary details and initial decisions of any sort to the very first draft of course/discipline contents and materials. *Preparation* refers, therefore, to the initial phase of a new course or discipline, during which the teacher-designer establishes its foundations and develops its framework to be negotiated throughout the course development.

The *execution* component begins when the course is published in a virtual learning environment and made accessible online. At this stage, the course may be actively managed and enriched through collaborative interaction between the teacher and students, fostering engagement and continuous development. While execution succeeds in *preparation*, both components maintain a close interconnection that induces the teacher-designer to go back and forth before making specific decisions or solving certain disruptions or unexpected situations.

The *reflection* component involves not only the assessment process that permeates the course/discipline but also the critical reflective thinking developed by the teacher-designer who wants to interpret it, learn from this experience, and prepare him/herself for future complex endeavors. *Reflection* is also connected to the preceding ones because it has interwoven features that are necessary for the decisions at the *preparation* and *execution* levels. In other words, *preparation* predicts *execution, execution* builds on *preparation,* and *reflection* permeates both, creating a continuous, recursive cycle that extends the entire course or discipline.

To represent these interconnections and meanings, the complex educational design may be visually depicted as follows:

Figure 1. Complex Educational Design: **graphic representation**[5]



Source: The author

Having a design blueprint to guide me, I started to consider the blended discipline to redesign. My very first finding was that it was impossible to *re-design, to design-again,* a discipline from a complex perspective because I needed to conceive of it from a fresh viewpoint: the conception of the discipline should be open to connections and reconnections in various ways so that knowledge could be constructed circularly, recursively, retroactively, and systemically, establishing a dialogue between previous and recent constructs, as well as between opposite but complementary concepts, displaying a reciprocal relationship between the whole and its parts, considering the features of new participants in a new context, in another place and time. Designing a complex discipline then requires a creative approach that is inherently unique, as it must simultaneously be ecologically systemic, recursive, dialogical, and hologrammatic. This very first finding was undoubtedly unexpected; it generated an incredible *knowledge rupture* that deconstructed what I had already built about designing courses in general. It was *a complex rupture*, opened to new interconnections.

My approach to addressing the main complaints from students and teachers (as previously mentioned), while respecting institutional expectations regarding discipline objectives and course load, was to implement the CED through project-based learning. In so doing and therefore, by observing

5 Figure 1 may be accessed by any *QR code reader.*

Behrens (2000, 2006) orientations on this topic, I realized I might keep the students focused on a provocative learning situation, attuned to the idea of developing a research that would allow them to work individually at first and then together, connecting and reconnecting pieces of information gathered from various sources, going back and forth on knowledge construction to circularly and recursively discover new pieces of information that might bring the proposed project to a satisfactory, not closed conclusion. This was the notion of projects exploited in the blended discipline.

Considering the association suggested, but focused on the CED *preparation* component, I outlined the comprehensive structure of the blended discipline, as follows:

Table 1 - *Preparation:* **outline**

- The first face-to-face meeting will take place in the university laboratory, and the following topics will be addressed:
  - course plan presentation
  - general instructions about the blended discipline and Moodle's new configuration
  - informal conversation on:
    - students' previous experiences on Moodle and other blended disciplines,
    - students' needs and expectations of this discipline,
    - teacher's expectations of the subject
  - initial decisions about the discipline schedule and each project deadline
  - expectations on partnership among students and the teacher to develop the course dynamics.
- The syllabus will be addressed in three projects: the first will be done individually, the second, in pairs, and the third, in groups of four students. This arrangement creates opportunities for online negotiation, collaboration, and partnership, as students will need the research conducted for one project to start the next.
- Projects will evolve in such a way that the previous one is part of the next, so that they are interconnected, but each one has new aspects to be discovered and contributions to offer to the whole construction.
- Each project will be developed in *three steps* (three weeks) followed by a (face-to-face or online) *presentation* (prepared in one week). Therefore, each project will take four weeks to be concluded.
- To create an online routine and better deal with deadlines, when a project is displayed on Moodle, the *three steps* will be available. After three weeks (deadline established), the *presentation* will be displayed, and a new deadline (one week) will be assigned.
- The final presentation of each project may be done according to different formats: PowerPoint presentation, video, written text, or any other format. It may be established by the teacher or chosen by the student/group.
- After the conclusion of each project, there will be a reflective moment or a face-to-face meeting to evaluate/reflect upon the online class dynamics.

Source: The author

Building on the initial decisions made during the *preparation phase, I executed the project by* defining the environment layout, selecting appropriate tools, and identifying accessibility, usability, and navigability (Nielsen, 2000). These actions depicted the beginning of the blended discipline, the moment it was implemented and started to be managed. It was the moment when *preparation, execution,* and *reflection* were unmistakably interconnected, acting together to help me be attuned to the objectives to reach, and sensitive to the needs and expectations to meet.

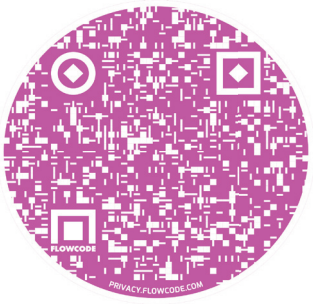
From a complex perspective, Project 1 invites students to retrieve their previous knowledge of reading to establish connections with the information they are supposed to research, i.e., reading strategies, and the reading of printed and digital material. This deliberate purpose aimed to provide the students with an opportunity to step into a familiar territory before exploring what might be unknown to them. By doing it this way, recursive connections could be established, and so could curiosity and motivation. It is relevant to emphasize that, when necessary, any changes could be made at any time throughout the project development. However, Project 1 was accepted by the group as planned, except for the initial steps deadline, which needed to be postponed.

Bearing in mind the students' positive reactions, acceptance, and interaction, I outlined the knowledge-construction route by introducing the contrast between texts and hypertexts as Project 2. Such a topic provided a noteworthy connection to Project 1 and, according to my own inquiry, to other face-to-face disciplines the students attended that term, which addressed similar or interconnected topics. I believed that by researching and discussing texts and hypertexts from various angles, they would be equipped with more arguments to examine the contrast proposed by the project and consequently link their findings to all the disciplines involved. These outcomes could arise from a form of interdisciplinarity, even if not entirely intentional, which would create a complex learning environment.

In view of the students' performance in Project 2 and based on their growing interest in the Internet in general, but particularly in social networks, I selected *texting* as the theme for Project 3. I then asked the students to research this concept from both theoretical and practical perspectives, explore the meanings of abbreviations commonly used in digital communication, and discuss the impact of this writing style across different communication channels. This reflection could also highlight its potential applications in educational contexts.

To provide a comprehensive overview of the blended discipline and its internal and external interconnections, I present a summary of how it was taught (see Figure 2). The *arrows* on the right indicate the intended external or intersystem connections among issues addressed in the blended discipline, the students' previous knowledge, and the content of other face-to-face disciplines attended during that semester. Lines on the left point out intentional intra- or intersystem connections predicted by the *complex educational design.* They attempt to display the recursive movement that depicts knowledge building in a complex learning environment. However, many other similar or different, unpredictable connections may be established, depending on how the students perceive the discipline, their previous experiences, and their interpersonal interactions. Figure 2 illustrates predictable intra- and interconnections, what the teacher-designer had in mind, and displays a series of possible links to give a more concrete idea of the blended discipline from a CED perspective:

Figure 2. **Course internal and external interconnections**[6]



Source: The author

6 Figure 2 may be accessed by any *QR code reader.*

Assessing the results and making meaning of the experience

As emphasized previously, the *execution* and *reflection* components were articulated from the moment the blended discipline became available to the students until the last procedure was concluded. However, there were moments when one or the other had to be emphasized, depending on the features of specific actions. *Reflection* was particularly evident at the end of Project 1, when it became an activity called "*Looking back… moving forward*". As its name suggested, the students were supposed to look back and interpret Project 1 to move forward, helping me change and adjust necessary aspects of the discipline. In other words, they were expected to write their impressions of the new learning environment's layout, content, dynamics, and routines.

The students' reaction to the first project was rewarding and indicative that the choices made were adequate. They acknowledged the attention given to the deadlines established, to the teacher's *presence* in the online classroom, and to the nature of the activities, as illustrated by the excerpts[7] below:

> I think that Moodle is been very dynamic until now. I'm sure that the activities have added a lot of knowledge not only for me, but for all of us! (…) The deadlines are perfect! (...) It's the ideal time to research and make tasks in a careful way.

> Well, the Moodle activities have been different from what I had imagined. I thought we were going to study the English grammar the old way, with exercises. But instead it looks like the last semester, but in English. I've been practicing my writing and vocabulary.

> I am very happy with the way the new moodle performed. I think much better most of the activities are online and we have the opportunity to speak with the teacher at any time, and the doubts about whether or not to put on activities. With this opportunity to talk with the teacher, we have more time to make a better activity. The deadline for leave activities and lessons has been larger than last semester and this is really good. (...) I am really happy with Moodle this semester.

> In this project what I really liked was the division in three projects! And the different deadlines to send to you! This way, I had time to do more patiently search over the topics. And also, to do the final presentation, which I chose a power-point one, I was very secure in my writing. With all the research I also learned a lot about reading and its different techniques, that I am sure using them for my studies and with my students too. So far, I am definitely enjoying this new moodle!

7 The excerpts were literally transcribed as inserted into the course platform, and the anonymity of the students was preserved.

Considering the connotation of the students' evaluation, I kept on developing the two remaining projects as described in the previous section. Unfortunately, we could not have such a similar reflective moment after Project 2 because its deadline was postponed, and Project 3 had to be done in sequence, before the end of the school year. Occasionally, however, I met students in the university halls or in other university areas who informally commented on the discipline and provided me with positive feedback. Formal reflection was undertaken at the end of the discipline in two specific moments: orally, in the final face-to-face meeting, and in writing, on Moodle, as illustrated by the following excerpts:

> This time, moodle was more comfortable to do and the students had more time to do it. It was so great!

> The deadlines were better this semester. We had more flexibility, and in my opinion that is one of the most important points of an online course, so I liked this aspect.
> I think moodle helped me to learn some things, to be more careful in what I read and write, for example. (…) But I liked moodle and all the projects, because this made me more careful in everything. So, thanks for it.

> I thought this discipline very interesting. We have approached many things that I consider relevant. For example, the reading strategies. It's very important we know how we can do a good reading. (…) I've enjoyed that we had more time to do the activities. (…) In general, I've enjoyed the course. And I've learned a lot with it. Thank you for all!

> In my opinion the course was great and taught me important topics like the "hypertexts". I reflected about the importance of reading and I understood the differences between "texts" and "hypertexts". I wish I could discuss more with my fellows about each topic to see more points of view of the subject.

In addition to the opinions presented, either in casual meetings or in writing, the students made relevant comments on the length of Project 2. According to them, we spent a long time researching and dealing with a topic they *"know by heart"*, as one student said, and as a result, we were kind of short of time for Project 3.

I partially agree with this comment; however, from the teacher's perspective, the intention was to interconnect this discipline with others to help students articulate content related to hypertexts — a common issue they were addressing at that point in the semester. In didactic terms, I interpreted it as an interesting opportunity to establish interdisciplinary links. Nonetheless, from the students' perspective, it felt overwhelming because they had already encountered the same topic on other occasions and believed they had an adequate understanding of it. They perceived no need to establish other connections, to investigate it from distinct perspectives, to deepen their knowledge; they thought it was useless to spend much time on it. Perhaps I should have investigated the content of other disciplines

deeply and tried to identify an alternative focus to highlight unknown angles more clearly. However, what worried me the most was the fact that they did not want to learn more; they had the feeling they knew enough, "*by heart*", as if they had reached totality – a *fake perception*, though; they were not aware of it either.

In addition to the comments presented, the students made suggestions to shorten the distance between the blended discipline and the Translation field. According to them, this connection should have been addressed more explicitly during the discussion on abbreviations (Project 3) and, especially, in the Final Presentation, where the inquiry focused on the language teacher's perspective rather than on the field of translation. They complained, "once again", that the significant presence of future translators in the group had been overlooked.

Reflecting on this aspect, it is important to clarify that the English Language Course offers two possible career paths: teaching or translation. While the teaching career had traditionally been the most common choice among our language students, this profile has shifted in recent years, indicating that it could no longer be considered prototypical, particularly from that specific school term onward. Therefore, I should have analyzed the group's profile more carefully, especially when designing the final inquiry — perhaps by evoking language professionals but prioritizing translators.

The students' final comment concerned the length of Project 3, which had to be completed within a shorter timeframe due to the postponement of Project 2. Unfortunately, this was the project that introduced the most innovative topic for discussion, which is particularly relevant in translation. In addition to the students' time arguments, with which I agree, I think Project 3 should be better elaborated to emphasize social network postings more deeply. These topics were part of my initial plan; however, due to limited time toward the end of the term, I was unable to fully integrate them.

While the blended discipline was designed from a CED perspective, it revealed certain weaknesses that warrant improvement, as discussed earlier. Nevertheless, it is worth emphasizing the innovative contribution it made to the university's blended learning initiatives. Receiving feedback such as, *"I think activities improved a lot, made sense, and were related to our daily life and course,"* is particularly rewarding. This comment captures the essence of the experience: a blended discipline focused on reading and writing in a foreign language that was meaningful and connected to students' reality. Undoubtedly, the objectives were achieved, and a significant paradigmatic barrier was overcome.

Interpreting educational implications

Considering the blended discipline from the CED perspective, two findings emerge: The first concerns *redesigning* as a straightforward *reshaping*. From a theoretical perspective, it is a conceptual rupture to state that a complex course cannot be *redesigned* but asserting that, although taking previous experience in designing and teaching that particular course into account, it should be conceived from a fresh angle, opened to connections and reconnections in various ways, so that knowledge may be constructed circularly, recursively, retroactively, always open to transformations and development.

The second finding regards *negotiation*. Interpreting the interactive movement that emerged from the blended discipline, I realized that I decided on each project theme without negotiating with

the students. To some extent, this feature diverged from the adopted design pattern; however, negotiating at this level could have jeopardized the entire discipline's schedule, which was institutionally defined. For this reason, my decision was appropriate for the circumstances and aligned with university regulations. Except for the project theme, negotiations occurred, when necessary, particularly regarding deadlines and requests for additional time to complete the projects and their steps.

Reflecting on what was accomplished throughout the semester, I would evaluate that implementing a complex blended discipline in a traditional curriculum was a valid and enriching educational experience. Some aspects should be improved, as commented previously, but such a review was naturally expected given that it was the first offer of a complexity-oriented discipline. From the teacher-designer's perspective, the most meaningful insight gained from the semester with a group of freshman students was recognizing how engaged and critical they became regarding their own learning process. This is invaluable for students who have just begun their undergraduate journey and still have a long path of discoveries ahead. Throughout the course, they will inevitably realize that their knowledge is never complete and that this process always remains open-ended. Perhaps this is a lesson worth emphasizing in the next offering of this discipline.

To conclude my reflections, the inclusion of a complex, blended discipline within a traditional curriculum may signal a meaningful shift in university culture. By accepting and showing interest in the results of this study, an important step forward has been taken. While traditional and complex ways of thinking coexist, complexity has already been acknowledged as a legitimate possibility in the academic setting, ever since questioning began to emerge about its meaning and potential. The increasing interest from other teachers and course coordinators will certainly allow the complex texture to be woven more rapidly into the curricular fabric. With more agents and courses designed from a complexity stance, the traditional framework may gradually evolve into a richer, more dynamic curriculum.

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