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Two Models of Coteaching from University Teaching Staff: Phenomenographic Research

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Abstract

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Keywords

coteaching, higher education, phenomenography, team teaching, collaborative teaching

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Two Models of Coteaching from University Teaching Staff: Phenomenographic Research

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The literature of coteaching in the post-secondary landscape encompasses a wide array of different conceptions. Having multiple meanings of coteaching in higher education may pose some challenges for effectively implementing and researching this collaborative model. We should have a clear picture of the qualitatively different ways in which educators who co-teach in post-secondary settings understand this practice. Aiming to offer one of the first contributions to this effort, we analyzed the experiences of 16 university coteaching practitioners from a top university in Bogotá, Colombia. The sample participants' interviews were analyzed using a phenomenographic methodology (Marton, 1981), which seeks to capture the variation and complexity of the understanding of a phenomenon. Our findings reveal two perspectives for understanding coteaching, one relying on the meaning (referential conceptions) and the other on the practice (structural conceptions). Participants' coteaching meanings are determined by four qualitatively different understandings: cooperative teaching, collaborative teaching, pedagogical training, and critical pedagogy. When it comes to practice, the findings show eight categories, some of which have been previously described in narrative accounts about coteaching. The variability emerging from our findings highlights conceptual multiplicity rather than uniformity, thereby shedding light on the complexity of coteaching in post-secondary settings.

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Introduction

More than one person teaching a single class might seem to be a very interesting pedagogical tool. This practice, usually called coteaching, has been used both in K-12 and higher education for the last decades with different pedagogical purposes. While K-12 teachers have engaged in co-taught classes to assist students with special needs, namely children and youth with disabilities (Cook & Friend, 1995) and those who are not native English speakers (Pappamihiel, 2012), college professors usually co-teach for reasons beyond special education purposes. For example, to mentor an inexperienced professor (Walters & Misra, 2013) or expose students to broader perspectives about a single topic (Krometis et al., 2011). As a result, varying definitions of coteaching among academicians and practitioners have emerged, some of them even contradictory when compared between K-12 and higher education research.

In K-12 education research, there has been a significant concern for clarifying what is meant by coteaching. Friend, Cook, Hurley-Chamberlain, and Shamberger (2010) have been emphatic in pointing out that coteaching in any way can be confused with team teaching or collaborative teaching. Coteaching, they highlight, is a practice for improving the educational outcomes of students with special needs and should not be used interchangeably with terms

such as collaboration or team teaching. We agree with them that a “beginning point for ensuring that coteaching’s potential can be truly explored is reaching a common understanding of what [coteaching] entails” (p. 19). The misused conceptions of coteaching could negatively affect programs that incorporate (or are willing to do so) such a pedagogical tool because, depending on what coteaching means, both academics and practitioners create guidelines (in terms of teacher roles, logistic programs, impacts on students) to deliver this practice effectively. To clarify misconceptions, K-12 research in the USA has done substantial work to document conceptions of coteaching from the perspective of coteaching practitioners. Diverse literature illustrates a clear connection between teachers’ conceptions of coteaching and special education (see Austin, 2001; Hang & Rabren, 2009; Pancsofar & Petroff, 2016).

The story in higher education is quite different. While coteaching has also been delivered as a special education pedagogical tool (Duchardt et al., 1999), a little over a decade ago, the term coteaching has been reappropriated to describe an alternative approach to student teaching (Bacharach et al., 2008); one in which two or more faculty (irrespective of their disciplinary background) share the teaching practice. Since then, and without being concerned about the call of Friend and colleagues (2010) not to describe the collaborative and team-teaching practice as coteaching, many academics and practitioners have shared insights about different complex collaborative teaching practices in higher education under the label of coteaching (see Badiali & Titus, 2011; Ferguson & Wilson, 2011; Jarvis & Kariuki, 2017; Krometis et al., 2011; Morelock et al., 2017; Walters & Misra, 2013). What guarantee do we have that college faculty are discussing the same phenomenon rather than different phenomena they happen to call coteaching? What are the conceptions that make some university professors call their collaborative practices coteaching? How are they using their complex collaborative teaching experiences to make meaning of this practice? Those are some questions that, unlike K-12 research, remain poorly addressed in higher education scholarship.

As practitioners of coteaching in university settings, we know firsthand the importance of having clear and common understandings of teaching practice to both effective delivery and institutional support. The coteaching practice is not an exception. Accordingly, we researched the meaning of coteaching using the perspective of university educators’ experiences. The purpose of this study was twofold: to investigate the qualitative differences in university educators’ conceptions of coteaching, and based on these results, to create a graphical model (outcome space) for conceptualizing the meaning of coteaching in higher education.

Literature Review

Solis and colleagues (2012) have asserted that there is little variability in the definition of coteaching. Nevertheless, a brief survey of the literature on coteaching easily shows that coteaching encompasses a wide array of dissimilar definitions. Cook and Friend (1995), who are considered the gurus of coteaching, were the first ones to define this practice as “an instructional delivery approach in which a classroom teacher and a special education teacher . . . share responsibility for planning, delivering, and evaluating instruction for a group of students, some of whom have exceptional needs” (p. 1). This initial definition clearly describes coteaching as a practice of teaming between a special educator and a regular teacher to include students with disabilities in the general classroom. Since Cook and Friend (1995) adopted the term coteaching in the context of special education, K-12 teachers have used this definition to describe inclusion-based methodologies in a broader sense. In K-12 bilingual programs, coteaching is defined as a teaming approach between a general education teacher and an English language teacher for improving the quality of education for children who are not native English speakers (Pappamihel, 2012).

Fifteen years later, and with a pile of papers published on coteaching since then (see Cook & Friend, 1995, 2010; Friend, 2008; Friend et al., 1993), the gurus of coteaching, Friend and colleagues (2010), raised concern about the possible negative implications from misusing the term coteaching to describe teaching practices outside the special education domain, namely regular cooperative, collaborative, and team-teaching practices. They argued that co-constructing a shared understanding of what coteaching means in terms of teacher roles, logistic programs, and student impact was needed for a proper implementation. Otherwise, K-12 programs willing to implement this practice may be negatively affected. Based on this argument, Friend and colleagues (2010) encouraged reducing the concept of coteaching to their initial definition: an instructional practice in which two teachers, one regular and the other special, share teaching to include students with disabilities. It seems academics and practitioners of coteaching responded to that call due to a great bulk of K-12 literature on coteaching adopting Friend and colleagues' (2010) definition (see Austin, 2001; Cook & McDuffie-Landrum, 2020; Hang & Rabren, 2009; Pancsofar & Petroff, 2016).

In higher education, Friend and colleagues' (2010) call has not had the same resonance as it had in K-12. Although there is some research describing coteaching as an inclusive model (Zbacnik, 2015), as we will show you, the large bulk of literature on post-secondary coteaching has been focused on describing experiences outside of the special education domain. Bacharach, Washut Heck, and Dahlberg (2008) were the first ones to ascribe the term coteaching to describe university teaching practices deeply rooted in collaborative and team-methodologies for regular students. The subsequent literature on coteaching in higher education has embraced those definitions with some precision (e.g., Bacharach et al., 2008). While those definitions remain as collaborative methodologies, they vary depending on the design, participants, roles, and contribution of collaboration.

Maiorescu and Eberhardinger (2016) have described coteaching as a collaborative relationship between faculty members whose diverse expertise and backgrounds allow them to plan, organize, teach, and assess courses from broad perspectives for students. Some authors have adopted this definition to analyze cases in which two faculty, coming from different professional backgrounds or areas of expertise, jointly teach a single topic from interdisciplinary or wide perspectives, for example, a math professor and a visual arts professor (La Haye & Naested, 2017). However, such a definition that relies on faculty members only leaves behind cases in which one of the educators is not a professor or faculty member. For example, there are cases in the literature in which the team configuration is organized by a college professor coteaching with a K-12 teacher (Badiali & Titus, 2011), and a dyad made up of a senior student and a professor (Schultze et al., 2018).

A more inclusive conceptualization of coteaching exists. Simpson, Thurston, and James (2014) have defined this practice in a broader sense as "two or more educators contractually sharing instructional responsibility for a single group of students, in a single classroom, for a specific content area, with joint accountability, and varying degrees of participation" (p. 2). This definition has been adopted in models of coteaching in which one of the purposes is to instruct a naïve educator (usually a grad or senior student) into the art of university teaching. However, Simpson, Thurston, and James' (2014) definition also fall short when describing coteaching models that do not rely on teaching in a single classroom, for example, cases in which two or more instructors co-plan the syllabus of the course but teach it in different classrooms parallelly (Bacharach et al., 2008). Another example of a more expansive definition is a recent case in which lecturers from different countries create a university program, but they do not necessarily practice it by teaching the classes, in other words, coteaching in transnational contexts (Wohlgemuth et al., 2019).

As we show, the definition of coteaching in the post-secondary landscape encompasses a wide array of different conceptions, each one based on the authors' way to deliver this

pedagogical practice. What guarantee do we have that university coteaching practitioners discuss the same phenomenon rather than different phenomena they happen to call coteaching? There is still no agreement upon the definition of coteaching in higher education so far (Burns & Mintzberg, 2019). In response, many authors have decided to make a statement about what definition they will adopt for their research to avoid any misunderstanding (see Minett-Smith & Davis, 2020; Morelock et al., 2017; Wohlgemuth et al., 2019). We suppose this trend has to do with the recent embrace of coteaching in university settings and the limited emerging literature. We agree with Morelock and colleagues (2017) when they state that literature on university coteaching is scanty and has focused insistently on describing each author's experiences, undermining research on multiple cases.

Having multiple meanings of coteaching in higher education may pose some challenges for effectively implementing and researching this collaborative model. In terms of effective implementation, as Friend and colleagues (2010) have pointed out in K-12, we contend that the proliferation of dissimilar conceptualizations about coteaching may negatively affect when elaborating guidelines on how to implement this teaching tool properly. In terms of the research in the years to come, inconsistencies in terminology and definitions about coteaching would mean extra efforts when reviewing literature and comparing accounts (Minett-Smith & Davis, 2020). This could even leave out important research on collaborative college teaching that states no reference to the term coteaching (Hernández-Hernández & Benítez-Restrepo, 2011).

We do not believe that a response to the preceding challenges must be to reduce the definition of coteaching to a conceptual minimum, as have been suggested in K-12 by Friend and colleagues (2010) when they invited to limit the term coteaching to inclusive education practice. Seeking to achieve an agreement between academicians and practitioners about university coteaching, we should have a clear picture of the qualitatively different ways in which educators who co-teach in post-secondary settings understand this practice. Aiming to offer one of the first contributions to this effort, we analyzed the experience of 16 university educators involved with coteaching to answer the following question: In what ways do university faculty perceive and understand coteaching based on their experience? We strongly believe that such an answer to this question would enormously benefit coteaching research on higher education both for practice and theory in the years to come. Our study contributes to the growing literature on coteaching in higher education by revealing a wide range of ways in which university educators, coming from different disciplines, conceptualize their coteaching experiences.

Researchers' Contexts and Backgrounds

In 2016, the Academic Vice-rectory and the Center for Research and Training in Education (CIFE) at the Universidad de los Andes (Colombia) hosted the 6th version of the Teaching Colloquium, organized by Irma Flores, author of this research. This colloquium brought together faculty members and lecturers who had co-taught college-level courses at this higher education institution. Irma Flores and Mariana Tafur, authors of this research, presented their coteaching experiences. They had been coteaching some university courses with different colleagues during the past years and brought some insights about their experiences to the colloquium. At the end of the colloquium Irma Flores, who was the event organizer, proposed to the participants to research the different qualitative ways in which coteaching is performed at the Universidad de los Andes.

Irma Flores and Mariana Tafur were very curious about the multiple definitions' colloquium participants used for describing their coteaching practices. Some of them were pretty different, and a preliminary review of coteaching literature showed the same pattern. Consequently, they decided to explore these several conceptions by researching how

colloquium participants understand what they do in their co-taught classes. Mariana Tafur is a researcher trained in the examination of conceptions from experiences. During her doctoral work, she used phenomenographic analysis (the method we choose for this research that we will explain later) to study people's conceptions regarding what is a technological challenge. She also co-published a paper reflecting on how she properly made methodological decisions while conducting phenomenographic studies (Dringenberg et al., 2015).

To conduct the study, Jesús Pinzón (who is an education consultant and junior qualitative researcher from the STEMEd research group at the Universidad de los Andes) was trained by Mariana Tafur for data collection and phenomenographic analysis. Irma Flores and Mariana Tafur designed the interview protocol, and Jesús Pinzón scheduled and conducted the interviews. He also conducted the literature review with the guidance of Irma Flores and Mariana Tafur and transcribed the interviews. Mariana Tafur organized the methodological design. All the authors participated in the coding process and contributed equally to the report of findings.

Methods

We were interested in how university instructors differently conceived and understood their coteaching practices. As we intended to comprehend the meaning of human actions, this study was conducted under an interpretative paradigm (Patton, 1990) with qualitative methods. Phenomenography analysis (Marton, 1981) was used to explore similarities and differences in the qualitatively different ways in which university educators make meaning of their coteaching practices. Unlike phenomenology that leads to a better understanding of the phenomenon itself, the central focus of phenomenography is understanding the variation in conceptions and meanings based on the point of view of people who experienced a phenomenon (Marton & Booth, 1997). Therefore, is it a suitable approach when analyzing qualitatively different ways in which educators who co-teach in university settings understand this practice. To the best of our knowledge, this is the first study to apply this methodological approach to coteaching literature.

Phenomenography analysis is a method that was initially described by Marton (1981) aiming at capturing the variation and complexity of understanding about a phenomenon and how that understanding determines variation in practice. It is a second-order approach, which means it does not pretend to study the phenomenon itself, but rather how different stakeholders understand the phenomenon based on their experiences. The central unit of phenomenographic studies are conceptions, defined as distinct qualitative ways of understanding experience (Marton & Booth, 1997). Phenomenography reports variation in conceptions by creating an outcome space, which is defined as all potential ways of understanding the phenomenon under study (in our case, coteaching). To create the outcome space, researchers who conduct phenomenography draw upon two kinds of aspects of variations: first, the “what,” or referential aspect, which alludes to the direct object being studied; in this case, what professors perceive as coteaching; and second, the “how,” or structural aspect, which corresponds to the act (process); in this case, professors’ ideas of how coteaching comes about (Bowden & Walsh, 2000; Marton, 1981). The outcome space is the model of how the emerging categories are related to each other, allowing us to visualize the developmental path for understanding coteaching. We will describe in detail the steps we followed in our phenomenographic analysis later in this section.

Participants and Data Collection

This study was conducted with a convenience sample, consisting of the university instructors participating in the 2016 Teaching Colloquium on Coteaching at the Universidad de los Andes and some educators referred to us by colloquium's participants. We selected a sample of 16 individuals (10 women and 6 men) for this study. Our criteria for inclusion were that they had taught at least one university-level course in the coteaching modality in the last five years. The final pool of participants came from five diverse schools: education, architecture and design, law, management, and government. The majority were undergraduate-level instructors, but there were also few instructors from the graduate level and one administrator. Participants were appointed as Lecturer (6), Visiting Professor (1), Assistant Professor (3), Associate Professor (4), Full Professor (1) and Vice-dean (1). In addition, we decided to include a dean who coordinated different coteaching partnerships in the school of management due to the valuable source of data he could provide.

Participants' perceptions of coteaching experiences were collected through individual semi-structured interviews that lasted 40-60 minutes. One researcher recorded and transcribed all interviews to ensure consistency and uniformity in the data gathering. The interviews were conducted in Spanish, and the representative quotes used in the results section were translated into English. We developed the interview protocol and the questions (see Appendix A) through critical reflection of two members of the research team, aligned with Bowden's (2005) proposal¹. The respondent's anonymity was maintained during the entire interview process and thereafter, to secure ethical standards for interviewing. The quotes that emerged as representative results were anonymized, and a pseudonym was assigned to all participants to ensure confidentiality. In addition, we followed the procedure for the university's ethical requirements, asking for consent and socializing research objectives to all participants included in this study.

Data Analysis

In the early stages of the analysis, the ideas connected to our research question were taken apart from its transcript context to organize a set of quotes; these decontextualized fragments are called by Marton (1981), the "pool of meaning." To create the pool of meaning, in detail, the researcher who did the interviews and transcripts initially assigned a thematic code to every single decontextualized fragment, which revealed an aspect about the coteaching experience from the professor's point of view. An example of some fragments that constitute the pool of meaning is shown in the results section. This pool of meaning was a preliminary familiarization with the transcripts and allowed to capture a first interpretation of what emerged based on a general view. Then, seeking differences and similarities between the fragments of the pool of meaning, structural and referential categories emerged. Finally, the outcome space

¹ Bowden (2005) proposes not to ask direct questions such as "what is X?" in phenomenography analysis. Interviewers rather should ask people to describe recent experiences (successful and unsuccessful) about the phenomenon under study and are requested to describe as many details as possible of one experience. This decision was taken for two reasons. First, according to literature, when asking a "what is X?" question, people often tend to respond with a standard answer and the outcome does not reflect much variability. When they are asked for experience, on the contrary, the outcome reflects a greater variation across interviews. Second, answering a question that inquires about one's own experience rather than an abstract question that asks for theoretical interpretations, makes people more comfortable at the interview because they do not feel like they are being tested for their theoretical knowledge.

was constructed by analyzing the hierarchical relation between those categories and named The Coteaching Model.

We performed the following steps for categories to stabilize, using excel with the following procedure:

1. In the first column, we included the textual extracts from transcribed interviews.
2. In the second column, we created a code that described the key feature of the extracted code.
3. Revisiting the data, we adjusted those codes created.
4. In the following columns, we created different versions of the categories (three iterations) aiming to stabilize categories.
5. We define which stabilized categories were referential (i.e., the meaning given to coteaching) and which ones were structural (i.e., how professors approach coteaching).
6. We revise the group of quotes from each category for contextualization and to create the pool of meaning.

In the first iteration, one of the authors extracted 333 decontextualized quotes and assigned them a descriptive code, leading to 53 codes. For example, a professor explained the benefits of an interdisciplinary view, “it was cool because each [professor] contributed knowledge from their perspective to the course, and how the teaching of different disciplines looks like from their expertise” (E3).

For the second iteration, the first version of the codes from the pool of meaning was subsequently divided into two predictors of variation: (a) the meaning university instructors give to coteaching and (b) professors’ ideas of how coteaching comes about. As stated earlier in this section, phenomenography asks for variation in terms of the “referential” conception of “what” and the “structural” conception of “how” (Marton & Booth, 1997). One example of referential conception quote may be “I came to a class that is already structured in a certain way, in which you share with other teachers the assessment of the students of all the sections” (E10). One example of structural conception quote may be “I think it is more demanding, I think it requires more, much more patience, it requires time, it requires dedication, and not all teachers have that” (E9). After the consensus, we assigned 18 codes into the referential conception, and 33 codes into the structural conception. The decision-making process about the split of the initial coding was a result of an iterative process in which we revisited contextually the quotes that belong to a specific code in the transcripts, and upon the agreement, we decided whether the code reflects a referential or structural conception. We discarded some codes upon agreement because they reflect neither a “what” nor a “how” conception, namely, those two codes described coteaching as an important aspect to the foundation of the university to which a respondent belongs. For example, an individual said:

I am one of the professors, let's say, oldest in the faculty. So, I was trained at the Universidad de los Andes, where coaching is something that has existed since the very foundation of the university. That is not something new, so I am very surprised that little research has been done. (E1)

This was a contextual aspect rather than a meaning or a way to approach coteaching.

As a next analysis phase, we carefully analyzed the new pool of meaning divided into referential and structural conceptions, to establish a stable and agreed-upon set of collective meanings (Marton, 1981), called “categories of description.” This process was carried out

following two criteria from Marton and Booth (1997): (a) categories must be logically related based on hierarchical relations, and (b) the variation must be parsimoniously captured, that is to say, by the fewest possible categories. Keeping in mind these principles, we first reviewed in-depth the 18 codes assigned to the referential conception, looking for mutual meanings between the codes and contrasting them against the transcripts. We decided to combine some codes under a shared collective meaning to finally create four categories of description in the referential conception. For example, we merged four codes under the category of description “Pedagogical Training Practice”: (a) "Improve pedagogies" (e.g., “I think it pushes us to be better teachers,” E12); (b) "Learning from new pedagogies" (e.g., “They are greatly enriched by sharing the same classroom with another colleague. They say they learn a lot from their colleagues, from other ways of teaching, other ways of approaching problems,” E11); (c) “Training for new instructors" (e.g., “One is a teacher of the new teachers, so also that a teacher learns from the other teachers and does not feel alone building his course. And you always learn from the new ones, they come with fresh ideas,” E4); (d) "Mutual learning" (e.g., “More than coteaching it is co-learning because one is learning from the other,” E15). In this case, the merging was performed due to the aligned view of coteaching as a teacher learning experience. After finalizing the analysis of the referential categories, we repeated this process with the remaining 33 codes categorized into the structural conception. At the end of this analysis, 8 categories of description emerged for how university instructors’ approach coteaching. Table 1 shows the four different ways in which participants perceive coteaching and the eight different manners in which they describe how coteaching comes about.

Table 1. Categories of descriptions generated from the pool of meaning (data pulled from their context to form groups of similar conceptions). These categories were classified into two perspectives of experience variation: referential and structural conceptions.

Referential conceptions	Structural conceptions
(A) Cooperative teaching practice	(1) Voluntariness
(B) Collaborative teaching practice	(2) Emotional and personal support
(C) Pedagogical training practice	(3) Establishment of responsibilities
(D) Critical pedagogical practice	(4) Roles and leadership
	(5) Development of consensus and agreement
	(6) Interdisciplinary approach
	(7) Teaching community
	(8) Administrative and accounting support

Coteaching Models Elaboration

We analyzed the pool of meanings for the categories in the “referential” and the “structural” conceptions to emerge. The process considered the hierarchical and logical relations between categories, under the structural and the referential conceptions, resulting in two models. From a phenomenographic perspective, the outcome space resulting from a specific research setting does not imply that this model can be generalized to other contexts. Instead, this model allows visualizing how the participants of this study understand the coteaching phenomenon. Bowden (2005) has asserted that the aim of the phenomenographic results is “to describe variation in experience in a way that is useful and meaningful” (p. 72).

Accordingly, we decided to elaborate these models inductively and abductively (Denton, 2019) as a useful and meaningful way to discuss our results.

The first model was constructed based on the emerging referential categories, and it was called “the developmental pathway of coteaching.” This model was developed aiming to show how to move from less powerful to more powerful ways of understanding a phenomenon (Bowden, 2005), in other words, to depict some conditions for moving toward a deeper and more complex understanding of coteaching in higher education. The four referential categories in the phenomenographic results, by themselves, showed a pattern of one category being more complex than the other, unveiling the developmental path shown in the results section.

The second model was constructed from the conceptual body of structural categories and was called the “coteaching ecological model.” This model was logically structured using an ecologically based language to organize and relate the emerging structural categories. This means that each category is embedded within the following category, considering dimensions from an inner to an outer context: Personal → Interpersonal → Community → Institutional. According to Stanger (2010), ecological models are ideal for describing and elucidating complex interrelationships within education systems. The following steps were used to create each model:

1. Revisiting all the categories within the referential conception.
2. Identifying the complexity and the potential of the phenomenon in each category, according to literature.
3. Ordering the categories according to each model:
 - a. For the referential model, categories were organized from less complexity to more complexity (within characteristics), analyzing the commonalities between them (shared characteristics).
 - b. For the structural model, categories were organized from inner context to outer context.
4. Co-creating a visual output that illustrates the within and shared characteristics of categories.

Rigor and Trustworthiness

To ensure rigor and trustworthiness, we followed the phenomenographic guidelines of Cope (2004), Conz and colleagues (2020), and Sandberg (2005). We used three trustworthiness criteria commonly used in phenomenography: communicative validity, pragmatic validity, and interpretative awareness. Communicative validity is the integrity of the shared meaning-making in a community of interpretation. To reach it, before interviewing participants we clarified with them the purpose of our study. In addition, during the interview we asked several follow-up questions to allow participants to clearly express themselves and ensure we understood their ideas. As a second strategy to reach this type of validity, when performing the second analysis of the interview transcripts, we looked for coherent interpretations, that is, interpretations resulting from circular relations from its parts and the whole (Sandberg, 2005). We decided on assigning codes from the pool of meaning into referential or structural categories by contextually reviewing the quotes in the transcripts. Finally, a third way to reach communicative validity was to discuss the emerging results with several researchers and practitioners. As a team, we discussed the first familiarization coding and based on it we performed the following stages of the analysis together. Besides, two researchers are not just investigators but also practitioners of coteaching.

We ensured pragmatic validity by designing purposefully our interview questions that asked for experience rather than preconceived theoretical ideas of coteaching. Furthermore,

each category of description of the outcome space was illustrated with quotes from participant's descriptions of coteaching experience. Reliability as interpretative awareness concerns demonstrating that a researcher's interpretations during data analysis have been stated, controlled, and checked. This was attained in two ways. First, describing the context in which this study was carried out and our background as researchers. Second, the researcher who conducted the interviews, transcripts, and the first familiarization coding did not read any literature on coteaching before this process. It is also worth mentioning that he is the only researcher without experience practicing coteaching.

Results

In this section, we show some quotes from participants' interviews that represent the emerging categories. Also, we present two models that illustrate the outcome space of the phenomenographic analysis for understanding coteaching and how it is expressed in participants' practices. We present the categories of description for the referential and structural conceptions. In addition, we paired them with representative quotes for illustration. These quotes were translated from Spanish (their original language) into English.

Referential Conceptions

Category A - Cooperative Teaching Practice

In this category, teachers conceptualized coteaching as a pedagogical practice of cooperative interaction. This cooperative approach is understood as a team structure that articulates individuals' efforts into effective delivery of agreed-upon learning goals. As Jillian puts it:

Having a common syllabus, with an initial and final assessment that professor pairs do, and a final interdisciplinary assignment, well, that leads us necessarily to coteach. It's not a class in which we are both teaching the same subject; rather, each professor has their own section, and we meet to work together, talk about class, share activities, and then things happen in the classroom as they must. (E4)

Here, Jillian outlines several aspects of cooperative work: common learning objectives because of a shared syllabus, pair-given course assessments, sharing pedagogical strategies, meetings of the teaching team throughout the semester. However, all these practices were done without having constant and simultaneous encounters in the classrooms.

Category B - Collaborative Teaching Practice

Although cooperative relations persist, collaborative teaching practice is conceived as transcending mere cooperation between teachers. Some participants positioned coteaching as a practice that promotes planned, coordinated, and simultaneous work by team teaching. Regarding planning and coordination, Teresa describes the following:

There are many decisions you had to make in consultation with the other professor: The spaces, even class, when does the other teacher speak, when do I speak, when do we both speak on a subject, how do we deliver a lecture that day, how do we want interactions with students to be, when to meet. (E2)

Likewise, Joe recognized the value of interacting in the classroom that coteaching favor. He stated that

All professors have come to recognize, for a while already, that the most valuable thing about coteaching is the opportunity for learning it provides working as a team with another professor, sharing how to do things in the classroom, seeing them in action. (E11)

Additionally, several participating teachers emphasized the importance of being recognized as a team by their students. For example, Kellie said, “What I always hope for, in my classes, is that students see us as a team. So, if one professor sends an email, the other one is always copied, and they are expected to follow-up” (E3).

Category C - Pedagogical Training Practice

Some participants perceived coteaching as a teacher training practice for people with limited teaching experience. When María and Teresa explained how coteaching teams are made, they mentioned that:

I have had many experiences with coteaching in which you get someone who is new at teaching, and you introduce them to the practice. You empower them to become the other *professor*, not your assistant, and so, you help them become competent and proactive. (E2)

Although the emphasis of this category is on training inexperienced teachers, the learning process fosters mutual learning. Several teachers point out that coteaching also improves the pedagogical expertise of experienced practitioners. As Jeimmy puts it, “[coteaching] is an excellent training field for teachers; it works like a charm. And for those of us with more teaching experience, it becomes a space to fine-tune your teaching practice in an extra careful and rigorous way” (E6).

Another professor, Robert, suggests that the term coteaching should be changed to colearning: “What the three of us did, I wouldn’t call it coteaching, I would call it colearning. More than coteaching it is colearning because we are learning from each other” (E15).

Robert’s statement highlights the coteaching characteristic of the mutual learning aspect.

Category D - Critical Pedagogical Practice

Professors also understood coteaching as a pedagogical practice. It seeks to consolidate critical perspectives regarding knowledge production, pedagogical structure, and teaching practice. When participants shared their experiences interacting with students, they constantly noted the development of critical thinking as a constitutive element of coteaching:

Coteaching shows students that there are alternative ways to solve problems, that the professor does not have the absolute truth on the matter, that, in fact, the opposite is true; we can disagree with others, and we can discern and build from that. Through example, we can show students that there is not a single solution so that they blaze their own trails. (E13)

Berenice shared an experience concerning the ranking of different perspectives about the scientific method. Through the encounter of different perspectives, she illustrated how shared teaching within the classroom can even encourage critical thinking in professors:

So that is where we said: “where are we?” and the biologist [professor] embodied a positivist, natural science view . . . she was not completely linear, but she tended toward linear thinking. Whereas I, inhabiting my pragmatic position as an engineer, favored the middle-of-the-road approaches, even tending toward the chaotic . . . It was very fun because the biologist [professor] asked, “Is that really where you stand?” and I said yes. So, we had a discussion and all the students marveled at us—it was really fun. (E7)

Additionally, professors stated that coteaching sharpens their awareness of the power relations inherent in teaching, thus promoting constant negotiation practices inside and outside the classroom. As Sergio put it:

When I am the only professor, it is a lot easier because I have control over how to make the class more participatory, more practical. It is easier as a solo teacher because one has the power to control the space, its design, and the exchanges that we want to foster in the classroom. When there are two professors . . . that pushes you, in my opinion, to be more creative, more inclusive, and to give, through teaching, an example of inclusion. (E14)

About power relations, Aspen illustrated how thinking about physical space is a critical strategy for managing power:

If we make a circle, we both stand here, and students stand this way [circular gesture]. If we are going on a field trip, like yesterday, we try to be both in front of the bus to occupy the same position of . . . perhaps not authority but that role of who we are. (E12)

On the other hand, several participants pointed out that sharing the classroom triggers reflections about teaching practice. Abie, Monica, Jeimmy, and Jillian all shared the same anecdote on how they had to change a grading criterion in one of their cotaught classes. Jeimmy narrated the experience as follows:

I will tell you about an experience that happened in my class one or two years ago. The point of the activity was to evaluate oral communication and body language. In one of the presentations, my students were dissatisfied with the evaluation that the other teacher made about their body language. My students said that the evaluation was very limited and subjective; it was trying to direct body comportment in some ways. It assumed that there is one way only to be a lawyer, one way only to communicate ideas. That experience was a very interesting trigger for the teaching team and the class sections to engage in a collective exercise of reflection about the class and about every member of the teaching team. (E6)

The collective exercise mentioned by Jeimmy was a detailed review of the grading criteria, which they changed in consultation with students, and everyone came to agree on. Reflecting on the same anecdote, Monica said the following:

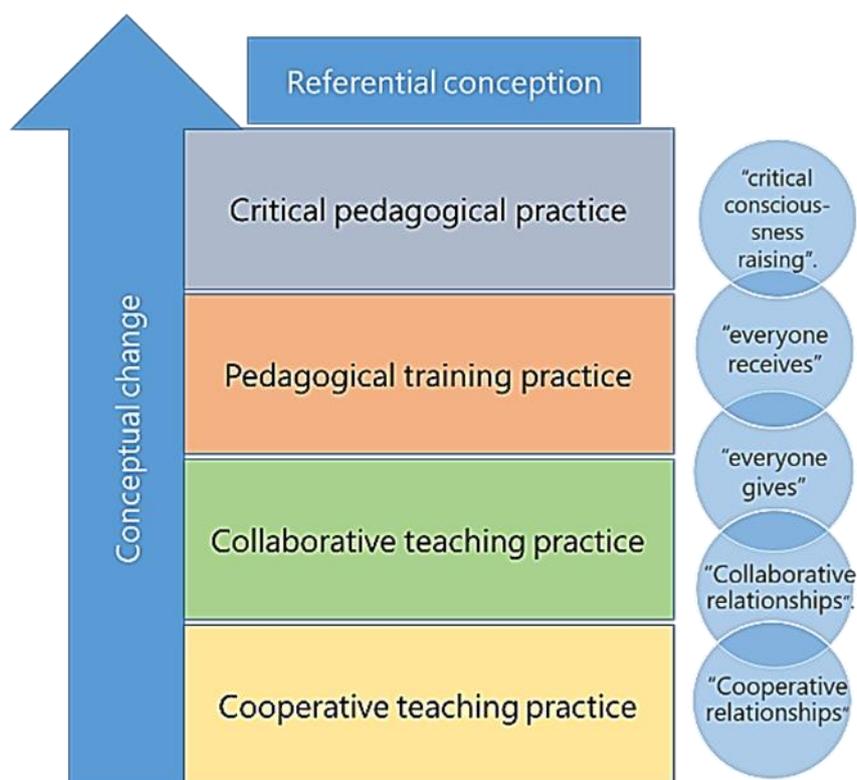
That is a specific example where you must reevaluate what we are doing precisely because the work happens as a team. The initiative came from a professor, and we all did it in our classes, and that was the criterion that professors and students came to agree on at that moment. (E8)

The analysis, of differences and similarities between the four categories that describe the referential conceptions, allows identifying the relationship between them. Those relations lead to the construction of the outcome space for understanding coteaching.

Outcome Space for Understanding Coteaching: Connecting the Referential Categories

The Developmental Pathway Model of Coteaching (Figure 1) consists of four relevant conceptual transitions to move from less powerful conceptions of coteaching to a more powerful understanding of this practice. We acknowledge that this process is not entirely linear, the developmental process is not experienced only in one way and transitioning from one category to another may result in a grey space where ways of coteaching may share some characteristics (shown as circles within the model).

Figure 1
Understanding Coteaching (Referential Conceptions)



The first transition is directly related to the evolution of cooperative relations and establishing a teacher collaboration strategy. Professors move from relationships in which only certain teaching responsibilities are shared into relationships that encourage constant and simultaneous partnership in planning, instruction, and evaluation. Two different categories emerged when separating "cooperative" and "collaborative" conceptions. It is worth distinguishing between these concepts, which even today, some teachers are unaware of their

difference and use them interchangeably. Kozar (2010) highlights this difference: “cooperation can be achieved if all participants do their assigned parts separately and bring their results to the table; collaboration, in contrast, implies direct interaction among individuals to produce a product and involves negotiations, discussions, and accommodating others’ perspectives” (p. 18).

The second transition involved a reciprocal relationship. The logic of this relation is rooted in an approaching shift from “everyone gives” to “everyone receives.” Professors conceptualize coteaching as a strategy that involves individual and collective efforts throughout cooperative and collaborative relationships. They also conceptualize it as a practice from which they can receive insights for their teaching practice. These insights were highlighted when professors conceived coteaching as a powerful learning environment for beginning teachers. This notion is supported by some coteaching literature (see Tobin, 2006; Walters & Misra, 2013). It is also highlighted when professors claimed that their coteaching partnership is a mutual learning strategy that enriches the teaching practice of both novice and experienced teachers through colearning. These colearning relations have already been merely suggested in previous work (Morelock et al. 2017; Roth & Boyd, 1999).

Lastly, the third approach shifts from “everyone receives” to “critical consciousness-raising.” This conceptual leap means that coteaching, for some participants of this study, is ultimately transformed into a teaching proposal that develops critical thinking and calls into question traditional assumptions about knowledge and teaching-learning practices. These assumptions include the internalized perception of knowledge as absolute truth and the uncritical acceptance of power relations in the classroom. Our participants recognize that coteaching encourages critical knowledge-construction processes and allows professors to sharpen the awareness of power relations in the teaching processes. The reflection account on Ferguson and Wilson’s (2011) coteaching experience allows them to find out that issues of power constantly arise as a part of sharing the responsibility of a classroom, a finding in agreement with our participants’ perceptions of power awareness.

Structural Conceptions

Category 1 - Voluntariness

This category describes a characteristic located in the first stages of consolidation of a coteaching partnership. Several participants indicated that voluntariness is a necessary condition to form coteaching groups or pairs. On this point, Kellie mentioned:

I believe that coteaching should not be forced. Coteaching must arise from people’s initiative to work together toward a common goal. You cannot be forced to do it because it then often doesn’t work. It also cannot be a proposal where someone says, “you have to work together” . . . In the end, it is the team that must decide whether we do it or not. (E3)

Some participants identified forced relationships as a source of problems for unsuccessful experiences. For instance, one interviewee reflected: “What happened in two cases I have in mind is that professors had said –I am never coteaching with that professor again. In one case, the problem was that coteaching was forced . . . the other case was because of the temperament of the two persons involved” (E11).

Category 2 - Emotional and Personal Support

In this category, participants detailed different emotions that emerge from the process of coteaching. There is a correlation between professors' emotional well-being and their educational effectiveness. On the connection between emotional well-being and teaching effectiveness, Monica said the following:

Coteaching works to let off steam because emotions are always at work in the teacher; it is not a thing you can unlearn or remove from the experience of teaching. Sharing your feelings with someone else helps a lot because it works as a catalyst, and it helps you release, emotionally, all the difficult moments with students. (E8)

Monica outlines an element of professors' emotional dimension when coteaching: receiving personal support from another person or a team.

Category 3 - Establishment of Responsibilities

This category presents ways in which participants managed and distributed the multiple responsibilities of a collaborative teaching process. Berenice said the following about sharing teaching responsibilities: "When I was in Education and Science with the mathematics professor, I oversaw uploading content to SICUA [Virtual Platform for Academic Activity Support]. The other teacher oversaw ensuring that the content was aligned with the program" (E7).

Here, Berenice illustrated how the division of tasks makes coteaching a logistically efficient strategy. With more people, effective responses can be given to operational situations that are not relevant to the learning process. Regarding the sharing of responsibilities, Peter said, "I believe that logistics in this type, of course, benefit a lot. Although the management becomes more complex, the solutions become easier" (E13).

Professors can also renegotiate the responsibilities once previously agreed.

Delegating responsibilities does not entail a complete loss of agency over some aspect of the course because decisions are discussed as a group. Teachers have joint agency over every course aspect. Jillian illustrated this joint agency with the following example: "The whole team does not have to work on writing the final exam. Two teachers prepare the final exam, they share it with everyone, everyone gives feedback, and then it is done" (E9).

Category 4 - Roles and Leadership

In this category, participants described how roles are determined when coteaching and how leadership is established. When Marina discussed how roles between teachers are established, she said:

I believe that there can be fixed roles or that they can rotate. In my experience, for example, it looks like this: this time you will grade this thing, and I will grade this other thing, or we split the group, and I grade this half and you the other half, or I assist these groups, and you assist the remaining groups. (E5)

Here, Marina explains that roles arise for assigned tasks and responsibilities, which can rotate. Other teachers, however, pointed out the importance of having a leader in shared teaching projects. Abie, for example, shared the following: "I think this is key—to have an

administrative leader. There needs to be an administrative leader; it can be either a teaching assistant or a professor, just someone who oversees keeping the project on track” (E4).

Category 5 - Development of Consensus and Agreements

This category points out consensus development and agreements. As a strategy, it allows articulating and managing setbacks that arise in everyday interactions. The reciprocal relation of professors can lead to disagreements. These tensions lead to the development of consensus and agreements that serve as negotiation frameworks to resolve discrepancies. On this topic, Teresa mentioned:

I have my way of doing things, I have my way of structuring things, but for coteaching to work and be collaborative, I must accept that you have your own rules and own way of doing things. In the end, we have to find a way for both to feel comfortable day after day. (E2)

Yet, disagreements do not necessarily end in agreement, as Kellie tells us: “Sometimes when we do not agree, when no agreement can be reached, somebody must acquiesce, and I don’t see this as totally negative but rather as constructive—it is a lesson learned, one that can be better managed next semester” (E3).

Teachers can grow from the dialogue and negotiations engendered by these situations. Some participants, like Teresa, saw these discussions as a positive aspect of coteaching: “I believe that curricular and pedagogical design is enriched when it is negotiated with and contested by others” (E2).

Category 6 - Interdisciplinary Approach

In this category, teachers highlight the interdisciplinary approach that characterizes coteaching. When Berenice referred to this approach, she mentioned, “We were missing the science component, so we invited a microbiologist, and then we had a spectacular team because we had a mathematician, a biologist, and an engineer” (E7).

Berenice’s statement not only illustrates the interdisciplinary professional background that connects the shared teaching experience; it also reflects her desire to have interdisciplinary conversations that enrich their course on STEM education. Different experiences and specialized knowledge of teachers when there are multiple approaches enrich the entire learning process. Kellie, who believes in the value of interdisciplinary approaches, shared that “[the class] was truly great because each one of us contributed her perspective to the class and shared what teaching is like in her discipline” (E3).

Knowledge is not only seen by professors from traditional disciplinary expertise. Coteaching brings into the classroom other types of knowledge developed outside the academy. For example, Aspen mentioned how inviting a transgender community leader as a coteacher into the classroom became a way to prioritize community knowledge in the university learning process:

That is what prioritizing her position as a professor looks like [about the Trans community leader coteacher]. Prioritizing the richness of her knowledge and her vast experience in activism, and how that contributes to creating agents of change in the classroom. (E12)

Category 7 - Teaching Community

This category highlights some of the effects of the colloquium on coteaching. Several participants explained that their collaborative teaching practices became more explicit, conscious, and intentional because of participating in the colloquium. Berenice, when reflecting on changes in her coteaching practice due to the colloquium, stated the following:

What I do think happened is that a coteaching community was created . . . I have been doing coteaching for many, many years, but not as consciously as I may do it now after had had explicit discussions about coteaching. So, it is not like I will start coteaching because of the colloquium; I was already doing it, so the colloquium did not change *that*, but it has made my coteaching practice more explicit and conscious. What is more important, I think, is that we created a coteaching community. I know the people who believe in coteaching and know different ways of doing coteaching. (E7)

Here we see that creating a sense of community is crucial for successful coteaching, according to Berenice. She mentions that besides learning about coteaching in ways that will improve her practice, a network of teachers who practice coteaching begins to consolidate at the university. This community is starting to promote research and reflection on coteaching, as exemplified by Jillian when she asserts it: “I believe that we also begin asking ourselves what else we can do together. What else can we do? Can we publish? We are trying to publish a collective text about coteaching, and I believe it was born out of this process of reflection” (E9).

Category 8 - Administrative and Accounting Support

This last category refers to different institutional obstacles for establishing coteaching partnerships and offers some strategies directed to organize and promote coteaching programs at the Universidad de los Andes. Participants suggest that there is institutional ignorance about the scope and pedagogical benefits of coteaching, which in turn makes the practice seem an accounting problem. Robert explained the situation this way:

What is desired is that professors teach 70 students rather than 20, because it is financially more efficient. It is then very difficult for a university administrator, under that framework, to square the fact that we have 5 teachers for 20 students . . . *That*, according to our current economic scheme, is absurd, but what has to change is the economic scheme, it is as simple as that. (E15)

Given these discouraging circumstances, professors shared that they have had to coteach without receiving monetary compensation. For example, Maria says, “I have worked with my peers without being paid, just because we believe in coteaching” (E1). Additionally, some professors have even had to finance coteaching with their own funds. Aspen mentioned the following: “The coteaching, in this case, is being financed by my research grant” (E12).

In contrast, some departments have built institutional efforts to recognize coteaching as an innovative form of teaching and provide financial support. Regarding institutional recognition of coteaching, Joe mentioned that,

To have that recognition, the professor must petition the teaching committee, which will examine the case. And so, we go through the process we must

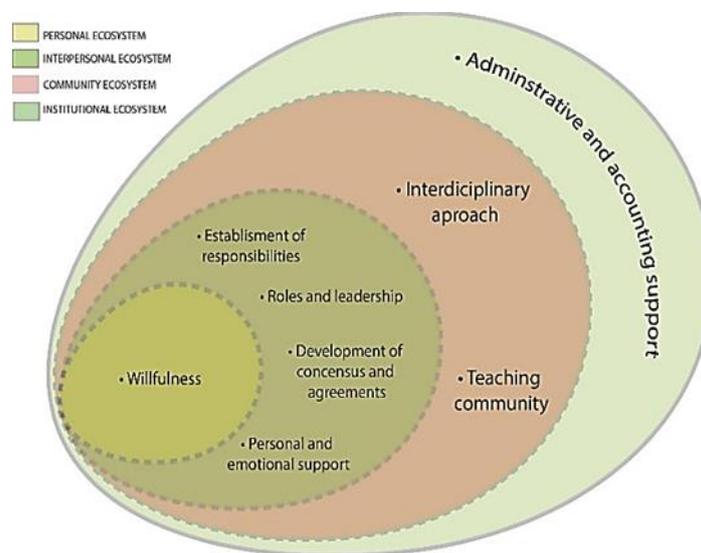
improve this thing, we must do that other thing, and then the project is approved, and the teacher, in the end, presents a report on the experience. (E11)

The analysis, of differences and similarities between the eight categories that describe the structural conceptions, allows identifying the relationship between them. Those relations lead to the construction of the outcome space for how coteaching looks like.

Outcome Space for How Coteaching Looks Like: Connecting the Structural Categories

The second conceptualization framework that emerged from the phenomenographic analysis refers to the structural conceptions or professors' ideas of how coteaching comes about.

Figure 2
What Coteaching Looks Like (Structural Conceptions)



This conceptual body inductively allows generating what we called, the “ecological model of coteaching” (Figure 1). This model consists of a relational scheme that encompasses four ecosystems: personal, interpersonal, community, and institutional. It serves to organize and relate the structural conceptions generated by this study. Our ecological model aims to highlight how the practice of coteaching requires different levels of social interaction in its development.

The first level of our ecological model, the personal, consists of the voluntary desire for collaborative work. We consider this a critical condition for the development and support of effective interaction in coteaching. This category is not directly related to the reciprocal action between peers or institutional structures (as subsequent levels are). Our study’s participants recognize that a sense of voluntariness is important to foster good relations that help their coteaching projects succeed. They mention some attempts of collaborative actions that failed because these relationships were institutionally forced. This notion of voluntariness is consistent with literature that states that the choice to work collaboratively must come from the educators themselves (Cook & Friend, 1991).

In the next level, the interpersonal ecosystem, participants identify four coteaching structural concepts based on the dynamics of interaction between peers. The first two concepts, the “establishment of responsibilities” and “roles and leadership,” both distribute pedagogical

functions among the teaching team. This does not mean that the teaching workload decreases; rather, the activities or tasks that occur before, during, and after the lessons are efficiently and strategically divided. The third concept, the “development of consensus and agreement,” is a critical element in collaborative practices since addressing discrepancies and conflicts has been identified as a vital activity for the success of coteaching teams, as posited by Conderman (2011). This concept draws attention to the importance of the negotiation process to face conflicts that occur naturally in teamwork situations, thus supporting the coteaching literature that insists on the importance of “clear communication and careful negotiation among the teachers” (Friend et al., 1993). The last concept in this ecosystem, “emotional and personal support,” describes the benefits to teachers of having emotional support. As some scholars have previously claimed, “the most significant benefit of collaboration [in teaching] seems to be the emotional support of another adult” (Rytivaara, 2012, p. 9).

Our model also suggests that, in addition to dealing with interpersonal dimensions within coteaching relationships, participants also expressed concerns about their communities, particularly with the emergence of a sense of community that values interdisciplinary approaches. These notions have become relevant since the consolidation of teaching communities. Likewise, interdisciplinary educational settings have been identified as valuable components that promote quality learning environments (Nugent et al., 2008; Spelt et al., 2009). Regarding the sense of community, MacDonald (2001) affirms that “Teaching Communities are a learning environment in which academic staff are learning about good teaching principles and learning how to engage their students in a meaningful educational experience . . . while also allowing for a new dimension to research work” (p. 164). It seems that building a collective identity that connects the teaching experiences in coteaching can be an opportunity to constitute a strong institutional culture that promotes pedagogical innovation and educational research. As Jillian and her colleagues recognized, all these coteaching interventions at the Universidad de los Andes stimulated the creation of a collective text that will discuss professors’ experience on coteaching.

Ultimately, within this ecological model of coteaching, the experience of the participants also faces institutional constraints. Educators sometimes engage in unpaid teaching because they believe in the value of coteaching. Although, participants state that there are some administrative actions oriented toward encouraging collaborative work processes among teachers. For example, professors report that they have cotaught without pay or self-financing their cotaught courses. Efforts for implementing coteaching models will be hindered without the necessary institutional support since it has been identified as a key element for helping teachers commit to quality teaching (Henard et al., 2014).

Conclusions

In this paper, we examined and described the ways university teaching staff define and understand this instructional methodology. We did not intend to describe in detail the definition of coteaching. Indeed, this is the first study using a phenomenographic approach to report on professors’ conceptions, both referential and structural, of coteaching in university settings. Our results are unique in literature in that it comes from a quite diverse sample of university teaching staff and multiple coteaching cases. Although, we recognize that being the first phenomenographic approach to coteaching at the higher education level may present a bias for that particular context. Therefore, we recommend further studies with different settings to adapt and consolidate a more inclusive coteaching model. Likewise, we recognize our responsibility on strengthening the coteaching methodology as a convenient pedagogical approach for higher education levels.

We conclude that academic circles cannot assume that professors have a shared understanding of coteaching since the literature review and the variation within our outcome spaces reflects a diverse range of meanings attached to the concept of coteaching. In higher education and college research, this concept needs more attention to clearly define the interpretation of coteaching in college settings. It could be convenient for determining the unique characteristics that differentiate it from K-12 coteaching. Such clarification may avoid misunderstandings and misinterpretations within academic circles and for practitioners. This study becomes a first step toward fulfilling this goal by serving as a conceptual guide of how professors understand what they do within their coteaching partnerships. However, future research would be necessary to confirm whether professor conceptions align with literature for coteaching on higher education and its differences with K-12 coteaching.

Two models were created inductively and abductively based on the phenomenographic results. With this analysis, we seek to move forward and surpass the idea of an “elusive conceptualization” that requires clarification because of its wide range of meanings. This study showed an amplitude of conceptions about coteaching, even though we expected less variety due to the similar backgrounds of participants. Both models made our phenomenographic results meaningful and fruitful for our reflection as higher education institution that promotes coteaching. The first model (Developmental Pathway of Coteaching) is meaningful because it illustrates a conceptual path of coteaching and the ways for approaching this route to obtain a deeper, more complex, and more powerful understanding of coteaching. The second model (The Ecological Model of Coteaching) is useful because it shows ways of approaching coteaching in a systemic and relational context. This wide range of conceptions about coteaching may promote diversity and inclusiveness in pedagogical practices. Acknowledging this conceptual variety may lead to reflecting and applying new strategies within institutions and coteaching communities.

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Appendix A

Interview Questions

Contextualization

- How did you start or decide to do coteaching?
- Could you give me an example of some of your coteaching experience?
- Could you tell me about your last experience in coteaching?

Details of the experience

Now, I will ask you a series of things so that you respond according to the experiences that you have just described.

(A) General

- What are coteaching's main benefits?
- What are coteaching's main drawbacks?
- What challenges do you encounter when coteaching?
- What opportunities do you find when coteaching?

(B) Structure

- How did you plan the course?
- When is coteaching done? Before, after, during class?

(C) Interaction

- When there is coteaching, are distinct roles for instructors identified?
- How are interactions between teachers? What effect do they have on them?
- How are interactions between teachers and TAs? What effect do they have on each group?
- How are interactions between teachers and students? What effect do they have on each group?

(D) Disagreement

- What kinds of difficulties and disagreements do you have?
- How are difficulties and disagreements handled?
- How are difficulties and disagreements negotiated?

(E) Closing

- What future do you see for coteaching in your department? In your university?
- Did your coteaching practice change after participating in the Teaching Colloquium on coteaching?
- Is there anything else you would like to say about coteaching?
- What list of words comes to your mind if I ask you to define coteaching? Any other words?

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