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# DISTANCE LEARNING, EMERGENCY REMOTE TEACHING AND BLENDED LEARNING: RESEARCH METHODOLOGIES

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# APRENDIZAJE A DISTANCIA, ENSEÑANZA REMOTA DE EMERGENCIA Y APRENDIZAJE HÍBRIDO: METODOLOGÍAS DE INVESTIGACIÓN

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EDUCATIONAL TECHNOLOGY; EDUCATIONAL THEORY; GROUNDED  
THEORY; MIDDLE-RANGE THEORY.

**PALABRAS CLAVE:** EDUCACIÓN A DISTANCIA; PANDEMIA DE  
COVID-19; TECNOLOGÍA EDUCACIONAL; TEORÍA DE LA  
EDUCACIÓN; TEORÍA DE RANGO MEDIO; TEORÍA FUNDAMENTADA.

## INTRODUCTION

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This chapter covers theories and methodologies for research in distance education (DE). Its objective is to discuss whether the traditionally used theories are adequate to explain what happened in the teaching and learning process during the covid-19 pandemic and to support the practices that should characterize post-pandemic education. It does not use empirical data but theoretical concepts that serve as a substrate to elaborate a critical reading about these phenomena.

## DISTANCE EDUCATION

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We consider DE as a modality in which teaching and learning are planned, which uses communication technologies and in which students and teachers are physically distant. In this sense, the term covers other commonly used denominations, such as distance learning, distributed learning, online learning or education, open learning or education and e-learning.

DE has progressed intensely in the late twentieth century, following the development of the internet. Today, several subjects are taught at a distance, in health, technical and human sciences and in different modalities, such as primary education, higher and corporate education.

The theory and practice of DE, in turn, involves several areas and themes, such as planning and management, finances, and quality; virtual learning environments, tools, and technologies; interaction in virtual environments; teaching and tutoring; student characteristics, time management, and student support; and assessment and evaluation. These themes have been covered in the various editions of the classic by Moore and Diehl (2019).

Zawacki-Richter and Anderson (2014) proposed a theoretical framework to guide research in DE, divided into three areas and 15 lines (Table 1).

Table 1. Research lines in distance education

DISTANCE EDUCATION SYSTEMS AND THEORIES (MACRO)	MANAGEMENT, ORGANIZATION AND TECHNOLOGY (MESO)	TEACHING AND LEARNING IN DISTANCE EDUCATION (MICRO)
Access, equity, and ethics	Management and organization	Instructional design
Globalization and cross-cultural aspects	Finances	Interaction and communication in learning communities
Systems and institutions	Educational technology	Learner characteristics
Theories and models	Innovation and change	
Research methods	Professional development	
	Learner support services	
	Quality	

Fonte: Prepared by the author based on Zawacki-Richter and Anderson (2014).

Anderson and Dron (2011), in turn, trace a history of DE in which they associate the available technologies to the pedagogies and theories of learning used in each generation. Among traditional learning theories, behaviorism, cognitivism, and constructivism are mentioned. The article also mentions connectivism, which Siemens (2004) positions as a theory of learning for the digital age, contrasting it precisely to behaviorism, cognitivism and constructivism, not focused on adult learning with technologies and networking.

Another way of organizing these theories of DE would be through the conceptualization of Merton (1968) for empirical, of middle-range and grand theories. While empirical or low-range theories are simpler, provisional and testable working hypotheses, which we elaborate and use at various times in research, general theories, such as Marx's historical materialism, are comprehensive and systematic, expect to explain all the observed social uniformities, but are not testable. Middle-range theories, used in sociology to guide empirical research, should be positioned between these minor working hypotheses and unified theories, dealing with delimited aspects of social phenomena. Consist of limited sets of assumptions, from which specific hypotheses can be logically derived and confirmed by empirical research.

Simultaneously, they are sufficiently abstract to deal with different spheres of behavior and social structure, transcending mere empirical description or generalization.

Cohen, Manion and Morrison (2018) develop this discussion on research in education. For a researcher in the field, macro theories could help build an understanding of the world and articulate a way of observing phenomena or explaining the context of a study, and, in this way, contribute to the development of research questions. However, much of the educational research would require middle-range theories, focusing on specific phenomena in specific contexts and seeking to explain them, with a balance between empirical and abstract elements. The grounded theory methodology, in which the theory emerges from the data, would help to generate middle-level theories. In the field of studies on DE, the theories of transactional distance (MOORE, 2002), which works with the variables dialogue, course structure and student autonomy, and community of inquiry (GARRISON; ANDERSON; ARCHER, 2000), which works with the variables social presence, cognitive presence and teaching presence, could be classified as middle-range.

## EMERGENCY REMOTE TEACHING (ERT)

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The covid-19 pandemic caused a massive migration from f2f education to what became conventionally named emergency remote teaching (Hodges *et al.*, 2020). Educational institutions did not migrate to virtual learning environments but to web conferencing platforms (such as Microsoft Teams, Zoom and Google Meet). Many teachers reproduced their lectures, and students began to attend the same classes, no longer in classrooms but now in their homes. Asynchronous tools and activities, such as discussion forums, glossaries, and wikis, were ignored because those who migrated from the f2f were not automatically aware that DE does not need to be synonymous with synchronous teaching classes, that times (and not just spaces) are different. The centenary and rich theory of learning in DE, which tells us, among other points, not to reproduce f2f, was ignored. It was also clear,

during the pandemic, that it is necessary to work on the digital competences of teachers, students and managers education institutions.

On the other hand, however, we experienced that it is possible to practice DE without packed content. Improvisation and practice without a theoretical foundation showed us that DE does not need to imply the exclusion of teachers from the teaching and learning process, his or her transformation into a content expert and the exploitation of the tutor. Teachers can be authors and instructors in DE, maintaining contact with their students, as in f2f education.

The pandemic also called our attention to the importance of open education. Many organizations have opened to face a global crisis: content providers, publishers, and educational institutions, among others. There was a social recognition of how essential it is for the progress of education to share resources.

This whole movement raises several questions: can classical learning theories (such a behaviorism, cognitivism and constructivism) help us understand this movement of migration from f2f to ERT? Would connectivism be an adequate theory for this purpose? Would middle-range theories, such as transactional distance and community of inquiry, be more appropriate? Would it be necessary to modify these theories? Would the research lines proposed by Zawacki-Richter and Anderson (2014) also need to be modified to support investigations on ERT and DE after the pandemic?

Another perspective is that it would be necessary to develop new theories to understand what happened to teaching and learning during the covid-19 pandemic. After all, the classic and middle-range theories and the research lines mentioned were not based on the situation we are experiencing, a mass migration to ERT and DE.

In this sense, it is essential to remember that there is a methodology specifically focused on the development of new theories from data, especially at times involving paradigm shifts, which is quite adequate, even for the elaboration of middle-range theories: grounded theory (Glass & Strauss, 2006).

## CONCLUSION

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This chapter initially sought to characterize, in general, the theory and practice of distance education before the covid-19 pandemic. Then it explored the transformations of teaching and learning during what was conventionally called emergency remote teaching, pointing to a future in which education will be characterized by blended learning.

One of this chapter's contributions is to reflect that the theories and research lines in DE may not be sufficient to help us understand what happened to education during the pandemic or support the practices of blended education post-pandemic. For this, it will probably be necessary to generate new middle-range theories and devise new research lines, for which the grounded theory methodology can be an essential contribution.

One of the limitations of this chapter is that it deals with concepts and ideas, not empirical data. Future work may seek to validate the perspectives presented here with empirical research and build new theories using the grounded theory methodology.

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