

Teaching care in nursing graduation according to the perspective of complexity

O ENSINO DO CUIDAR NA GRADUAÇÃO EM ENFERMAGEM SOB A PERSPECTIVA DA COMPLEXIDADE

LA ENSEÑANZA DEL CUIDAR EN LA GRADUACIÓN EN ENFERMERÍA BAJO LA PERSPECTIVA DE LA INTEGRALIDAD

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ABSTRACT

This study highlights the teaching of care in Nursing Graduation according to the Complexity Theory, supported by Edgar Morin. This is a qualitative study using Thematic Content Analysis. Twelve individual semi-structured interviews were performed at a private university in the city of São Paulo, Brazil. Data collection was performed between 2004 and 2005, using a guiding question. Data analysis revealed categories, herein referred to as Complex Pedagogical Indicators, which assigned meanings to complex care. Results showed that the interviewees realized and expressed sensitive care in nursing, making relations and interrelations of the parts with the whole and the whole with the parts, thus approaching complex care.

KEY WORDS

Philosophy, nursing.
Nursing care.
Knowledge.
Education, nursing.

RESUMO

Trata-se de estudo que destaca o ensino do cuidar na Graduação em Enfermagem sob a perspectiva da Complexidade, defendida e pesquisada por Edgar Morin. Optou-se pela pesquisa qualitativa, utilizando a Análise de Conteúdo Temática. Realizaram-se doze entrevistas individuais semiestruturadas, tendo como cenário uma universidade particular da cidade de São Paulo, Brasil. Os dados foram coletados entre 2004 e 2005, a partir da questão norteadora. A análise dos dados conduziu para as seguintes categorias, aqui denominadas de Sinalizadores Pedagógicos Complexos, que deram sentido ao significado de cuidar complexo. Os resultados evidenciaram que os entrevistados perceberam e expressaram o cuidar sensível em enfermagem, relacionando e inter-relacionando as partes ao todo e o todo às partes, aproximando-se de um cuidar complexo.

DESCRIPTORIOS

Filosofia em enfermagem.
Cuidados de enfermagem.
Conhecimento.
Educação em enfermagem.

RESUMEN

Se trata de un estudio que destaca la enseñanza del cuidar en la Graduación en Enfermería bajo la perspectiva de la Integralidad, defendida e investigada por Edgar Morin. Se optó por la investigación cualitativa, utilizándose el Análisis de Contenido, modalidad Temática. Se realizaron doce entrevistas individuales semiestructuradas, con escenario en una Universidad privada de la ciudad de San Pablo, Brasil. Los datos fueron recolectados entre 2004 y 2005, a partir de una pregunta orientadora. El análisis de los datos derivó en las siguientes categorías, aquí denominadas como Señalizadores Pedagógicos, que dieron sentido al significado del cuidar integral. Los resultados evidenciaron que los entrevistados percibían o expresaban el cuidar sensible en enfermería, relacionando e interrelacionando las partes al todo y el todo a las partes, aproximándose de tal modo al cuidar integralizado.

DESCRIPTORIOS

Filosofía en enfermería.
Atención de enfermería.
Conocimiento.
Educación en enfermería.

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INTRODUCTION

Modern age is recognized as the landmark in the advancement of science. Though scientific knowledge has offered conditions for the development of material technology, which is widely accepted at health institutions, in the areas of diagnosis, treatment, cure and recovery, a gap remains between *having* sophisticated equipment for nursing care and 'recognizing, knowing and practicing sensitive care' in nursing, using that technology.

Hence, as we enter the 21st century, it becomes necessary to review nurses' education. Besides teaching technical-material care, it is essential to offer atmosphere of reflection to improve the teaching to care based on differentiated care to each human being, aiming at their autonomy and well being. It is necessary to teach *how* to be present in the health care actions towards people.

We understand that to practice nursing is not merely to administer medications and/or relief suffering. Just as nursing practice is not an idea or something only imaginary, where the other is not felt, his or her nature is not noticed and their experiences are disregarded; it is caring for the other, caring for yourself, it is realizing, worrying, and being with the other, being there to listen, see, experience and get to know, it is an ethical and esthetical posture in relation to the world⁽¹⁾. Caring is reflecting, feeding, relieving pain, listening, hydrating, medicating, preparing for dressings, surgeries, exams, preparing for life and for death. In a similar way, teaching care in Nursing Nursing Undergraduate Courses involves demands related to a teaching-learning process that prioritizes the professor-student relationship. There is a need for educational reflection based on the reality of life, that is, it is fundamental that professors understand the web of relationships that exist in the health world, so they are able to think, teach and practice based on the single and multiple science that permits them to connect and contextualize different types of knowledge.

Therefore, being aware that we are historically, living a process of paradigmatic transformation, and that performing studies related with the education of nurses is necessary, we turned to the Philosophy of Science for a theoretical landmark related to Higher Education in Nursing, which refers to Complexity and Complex Thinking.

THEORETICAL LANDMARK

For this study, we sought in Complexity and Complex Thinking, which are defined and studied by Edgar Morin, the epistemologic basis for data analysis, discussion and interpretation complying with scientific standards. If on the one hand, scientific knowledge is constructed upon multiple certainties, on the other, it is no longer the holder of

absolute certainty. It is necessary to contextualize each happening, because things do not occur separately. Complexity comes from the idea of totality, incorporates solidarity and helps to reflect about everyday life.

Complex thinking has three epistemologic principles that are also ethical foundations of a new life conduct: the dialogic principle, the principle of organizational recursion, and the hologramatic principle⁽²⁾. Hence, we have:

1. Dialogic principle: bonds two principles or notions that should reciprocally exclude each other, but are indissoluble in one same reality. The dialogic does not oppose order and disorder, nature and culture, rather, it understands those phenomena as simultaneously concurrent, antagonist and complementary. *Living of death and dying of life*⁽³⁾ by the Greek philosopher Heraclitus, is a classic dialogic example with important expression in Nursing as a profession of caring, during life, and in the process of human dying.

2. Recursive circuit principle: Organizational recursion proposes the non-linearity of the cause and effect relationship that alternate the form as origins and consequences of phenomena, generating a complex synergy. It involves self-production and self-organization. It concerns, so to speak, a generator ring in which the products and effects are, themselves, creators of that which produces them.

3. Hologramatic principle: Refers to the imbricated relationship between the part and the whole, where the whole is larger or smaller than the parts together, the whole contains the part and is also contained in it. Therefore, the hologramatic idea per se is associated to the recursive idea which, in part, is linked to the dialogic idea. This principle may usually be represented by a hologram. The hologram is the physical image whose qualities of levels, color, and presence are due to the fact that each of its points include almost all the information that the group represents⁽³⁾. In a hologram, the part is in the whole, but the whole is in the part as well. This process occurs in the physical, biological, sociological and cultural worlds. In the same way, the individual is part of society, but society is present in each individual through language, culture, and their norms.

The hologram idea reaches beyond reductionism, which only sees the parts, and holism, which only sees the whole. It is necessary to realize that the educational systems' capacity of self-organization makes a certain totality appear with different properties and qualities, which are sometimes different from the original educational system, which is the reason why we can affirm that the whole cannot be reduced to the sum of its parts or of its initial components.

Complex thinking understands that the knowledge of the parts depends on the knowledge of the whole and that the whole simultaneously depends on the knowledge of the parts. It faces uncertainty, adds a cyclic causality to the lin-

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ear, unidirectional causality; it corrects the rigidity of logic by the dialogic, which is capable of conceiving ideas that are complementary and antagonists at the same time, it links explanation to understanding in every human phenomenon, and is, therefore, an open, broad, and flexible system that does not reduce multidimensionality to simplistic explanations or to closed idea schemes. Furthermore, it supports that the human being should be, all at the same time, physical, biological, psychic, cultural, social, and historical⁽²⁾.

Complex thinking is not a new logic. It has always existed. It is important to state that it is a thought of approximation to reality. It is capable of considering all the influences received internally and externally. Thinking about the epistemology of complexity has gained importance when we face the need to articulate, relate and contextualize⁽³⁾.

Therefore, we need to improve nurses' knowledge and educated them for creativity, flexibility, reflexive and interactive abilities to scientifically care for people taking the context into consideration and valuing objective as well as subjective dimensions.

Regarding the concept of human nature, we ask: who are we? Life effectively originated from Earth, and, in the multiform evolution of multicellular life, animality emerged. Then, the latest development of a branch in the animal world became human. We think we own Earth, but our lives depend on the earth's biosphere. Furthermore, we should not forget that man is a complex being, with connected biological, psychological, social and cultural dimensions, and that the phenomena in the health-disease area receive, at the same time, economic and historical influences⁽²⁾. It is necessary to understand the "human condition in the world as the condition of the human world"⁽⁴⁾. Human understating occurs when we feel and conceive human as subjects. The human subject is complex by nature and by definition. It consists of the cosmos per se, because it contains the interior multiplicity, despite the subject being unique. It is a point of the hologram containing the whole trinity, and it is not alone because the Other and We live in it⁽⁵⁾. It concerns understating that the unit is multiple and that the multiple is one. Therefore, it is important to know the human complex to refine the teaching of human care in nursing, the complex care that may also be referred to as sensitive care.

OBJECTIVES

To recognize and describe how undergraduates and newly graduated nursing students understand the teaching of care and; and analyze how they identify the theoretical-practical learning to provide care under the perspective of Complexity.

METHOD

The object of study was the *teaching care in nursing*, and to understand the reality of that teaching, it was important

to comprehend how undergraduates and newly graduated nursing students perceive and perform the *taking caring* of other people. Hence, the method of investigation and data analysis was designed based on the theoretical framework, because *theory is nothing without method*⁽³⁾, the theory is almost confused with the method, that is, theory and method are two indispensable components of complex knowledge. Seeing the method as a means of investigation, we adopted the reference that the researcher needs to develop and construct paths to come closer to reality, without disregarding the principles of logic and objectivity of science, but not losing sight of the search for articulating theory with reality.

This study was performed at a private school in the city of São Paulo, Brazil.

The project was evaluated and approved by the Research ethics Committee at Instituto de Saúde (Document 017/2004) complying with Resolution 196/96 of the National Health Council, which regulates the norms for studies involving human beings. All participants were informed and signed the Free and Informed Consent Form. Interviews were performed with eight senior and four newly-graduated nursing students who had not worked as nurses yet. Data collection was performed between 2004 and 2005. The number of interviewees was not previously established. This study used convenience sampling, in which data are collected continuously and are pre-analyzed, permitting the researcher to develop preliminary categories. The criteria used to establish the end of data collection was when there was a repetition of the preliminary categories, thus reaching saturation.

We chose to use thematic content analysis, which is a group of techniques to analyze the communication process that permits to study the motivations, attitudes, values, beliefs, and tendencies. The purpose is to make inferences based on an exploratory logic that is explained according to the object being analyzed; in our case: teaching for a complex care⁽⁶⁻⁸⁾. The following steps were used for the analysis:

1st – The transcribed texts were read thoroughly and without prejudgments. Further readings were made, alternating between listening to the recordings and reading the transcripts. This attentive posture makes it possible to follow the chain of associations in each interview and between interviews. It is a step that demands considerable time and close attention on the material being analyzed.

2^o – A new reading was performed. Words and phrases were underlined on the original texts. Themes related to the object of study and to the theoretical framework were identified. Procedures performed in each interview;

3^o – The first cutting of excerpts containing the underlined words and phrases was made for each interview was performed;

4^o – A new reading of the excerpts was performed, and, a second cutting was made of the words and sentences in each interview to obtain their precise meanings and connotations;

5° - The categories were constructed by trying to identify the thematic similarities in each interview and between interviews;

6° - The material was then interpreted and discussed based on the literature.

The contents from the interviews were analyzed and interpreted seeing for themes that would serve as 'meeting points' between the interviewee's statements and the principles of complexity regarding teaching in nursing for complex care in undergraduate courses. Therefore, because of the chosen theoretical and because of a pertinence for this study, we included the terminology **Complex Pedagogical Indicator**⁽⁹⁾. It refers to a linguistic construction created based on the discourses that converge to the principles of complexity and, for this study highlighting excerpts of the statements about teaching care in nursing.

For ethical reasons, we chose to use capital letters at the end of each segment transcribed herein.

RESULTS AND DISCUSSION

Based on the guiding question: *How do you perceive the teaching of care in the nursing undergraduate course*, three Complex Pedagogical Indicators (CPI) were identified, which provided the connotation to the meaning of complex care: CPI1 – Teaching-learning for complex care; CPI2 – Recognizing the complexity of human beings, and CPI3 – Concept of complex care. There was no difference between the data collected in the group of undergraduates and in the group of newly-graduated students. Therefore, the results are presented and discussed in the same section.

In CPI1 - **Teaching-learning for complex care**, the selected excerpts represent the interviewees' concern about associating and connecting the various types of knowledge for teaching care mostly in a recursive way.

[...] the internship supervisor talks about the importance of looking, talking with the patient, because we might not notice what is non-verbal. Besides the care with hygiene, medication, patients need affection, attention, a word or simply someone to hold their hand (A).

[...] the perspective of care from the first to the fourth year changed completely. Today I talk with patients and let them talk (B).

[...] one complaint about teaching is the theoretical part... it should be combined with the practical part. The university should combine theory with practice (C).

[...] in some classes in the undergraduate course..., care was addressed in a differentiated, changing from mechanical to more humanized (D).

Considering the presented information, we believe that the time is right to review nurses' education. The emphasis on the teaching-learning process demands performing spe-

cific technical techniques, but also encouraging students to participate, to interact among themselves, to debate and to dialogue. We understand that the search for quality of life goes from assist-care in health, to teaching-learning in education; to assist-learn in health-education, and to researching in these areas of knowledge⁽¹⁰⁾.

We must advance in the reform of thoughts, and, at the same time, to a teaching of complex care offered in Nursing Undergraduate Courses. It is necessary to reduce the influence of cartesianism and simplest thoughts, so we may favor knowledge of the parts and among the parts in their context. It is through the knowledge of the integration of the parts to the whole, completed by the recognizing the whole inside the parts that we will reach knowledge of the whole, the complex knowledge⁽¹¹⁾. Historically, Nursing has always sought that whole in the process of caring in teaching and in professional practice: the biopsychosocial care. The issue presented herein is that teaching should also focus, for instance, as the interviewee stated:

[...]the internship supervisor talks about the importance of looking, talking with the patient, because we might not notice what is non-verbal. Besides the care with hygiene, medication, patients need affection, attention, a word or simply someone to hold their hand (A).

This is an excerpt that translates teaching on the path to complexity, which reflects the complex thought. We often express ourselves this way without noticing it, and it is very good. What we also mean is that the students realize that they act in line with a reality that is contextualized and not exclusively linear.

Complex thinking does not state that *everything is complex*, as a synonym of *not able to understand*. It is not a thought about imprecision, uncertainty – despite including imprecision and uncertainty. Its purpose is to serve as a basis for constructing concepts and methodologies – utensils for thinking, reflecting and acting in the world – to articulate specialized knowledge. It does not form a *finished theory*, but a conceptual equipment in its course of elaboration⁽¹²⁾.

Because humans are complex beings, it is important that education for care in nursing also walks towards that direction. It should be stated that it does not mean, per se, a linear thought. What should be clear is that we need to know humanity, as close as possible to reality, to educate others and ourselves⁽¹¹⁾. Education should prepare each individual to understand themselves and others, by having a better understanding of the world⁽¹³⁾. The literature values the need of education to rescue the integrity of the human condition fragmented by the economical and scientific reason created in modern times⁽¹¹⁻¹³⁾. In this sense, the role of the university, as a center for research and knowledge development, could help solve the problems of society, especially because teaching institutions are the best place to enriched the dialogue between people, peoples, and cultures. The professor's responsibility does not consist, simply, of transmitting information, but of participating in the

construction of contextualized knowledge, in harmony with the reality of people's lives and with the environment in which they live⁽¹³⁾.

Therefore, there is a need for a teaching-learning for both practice and scientific research about complex care. We should aim at a construction based on context, global and complex, centered on the human condition, know and recognize ourselves in their common humanity and in the cultural diversity inherent to all that is human⁽⁴⁾.

In CPI2 – **Recognizing the complexity of human beings**, the interviewees highlighted the importance of knowing themselves for 'the care' towards others. Turning to the literature, we found that human complexity is recognizing that it is a biological, social, cultural, psychic, and, more than that, it is a known-stranger that bears a set of antagonist and bipolar characteristics⁽³⁾. At the same time that one is wise, he or she is insane; prosaic and poetic; worker and recreational. One can be simultaneously empirical and imaginary, and so forth. People live in many ways and present themselves from various perspectives. It is unity and duality; it is multiplicity, plurality, antagonism, complementarity and inseparability; it is body, mind, ideas, spirit, magic, affectivity. It is a *homo complexus*⁽⁴⁾.

Further, it is important to understand that human beings are generic beings, i.e., a person who defines him or herself as belonging to human species, by the characteristics of thought, language, personality⁽⁵⁾. In the sequence, the transcribed excerpts reflect the acknowledgement of feeling, thinking, speaking and acting. They are all simultaneously and dynamically entwined. The following are some excerpts that show that arrangement:

[...] the person has a human side (E).

[...] the person's amplitude as a human, the need that person has as a human (C).

The interviewees realize that all they seek to understand is part of a complex web of interactions and they recognize the importance of knowing themselves to be able to take care of others, because they are people who, at the same time, have biological, psychic, social, and spiritual characteristics; i.e., they are complex beings. The human being is not only a biological being, or a mere physical body. It is a complex whole that interacts with itself, with its family and with society⁽⁵⁾. In other excerpts, we observe:

[...] being human is to put yourself in the place of others (G).

[...] caring is self-evaluating. When you look inside yourself, understand why you are here, you know..., understand why I'm here, you know... taking care of people is something grand... (H).

Hence, we highlight that sensitive care involves multiple dimensions with the other and with oneself. Human complexity should not be understood separate from the elements that compose it.

Every development that is truly human means the group development of individual autonomies, community participation and the feeling of belonging to the human species⁽⁴⁾.

To understand human beings' hologramatic is to see that the part is in the whole and the whole is in the part. The interviewees report that that care, as they recognize and reflect upon the existence of an 'interior self' in themselves and in clients, verbalizing the *hologramatic* complexity of human beings.

In CPI3 – **The concept of complex care** it should be considered that the history of civilization evidences that care is always present in the process of being born, living, falling ill, and dying, even before the first professions appeared⁽¹⁾. Care requires knowledge of yourself and of the other being and is characterized by the relationship in which they both react and relate with people, in a recursive way.

Care, regardless of the little or no value assigned to it, will continue being essential for the survival of species, for the promotion of life, and preservation of the planet. Care involves a truly interactive action, that is recursive and connected to behavior and is founded on values and on the knowledge of the being providing care to that who is receiving the care⁽¹⁻²⁾. Here the hologramatic principle is also applied, in which care means to understand humans. It involves the action of thinking and rethinking about the other, respect their beliefs and values, their rights. It is putting yourself in the place of that other.

The excerpts below address the concept of complex care.

[...] providing care is everything. It is the essence of nursing. It is an exchange. To provide care is one thing... [...] ...care is essence. It is a process where you receive and will give (G).

[...] providing care is something wide. It sees human beings and all their essence... (B).

[...] providing care is to assist, looking at every angle and respecting their beliefs, their limitations, their rights, informing what is happening... (I).

Care has always been present in human history and with the advent of science, studies on care as well as the practice have been incorporated to higher education in nursing. Care is a form of living and of relating. Therefore, individuals live for themselves and for the other dialogically, hologrammatically, recursively. The other means, at the same time, the similar and the dissimilar; similar in terms of the common human or cultural traces; dissimilar by their individual uniqueness⁽⁵⁾, in a comprehensive relationship in life.

The comprehension about the other incorporates objective comprehension, but includes, at the same time, subjective elements. Complex comprehension encompasses explanation, is multidimensional and tends to expand towards several dimensions or aspects of each person⁽¹⁴⁾. That is complexity, which should be part of the academic universe in Nursing Undergraduate Courses.

Hence, we added the Tetralogic Ring Figure⁽¹⁵⁾, presenting a graph that represents what has been written, with the pur-

pose of providing the reader with a spatial view of the importance the interaction among the three CPIs for complex care.

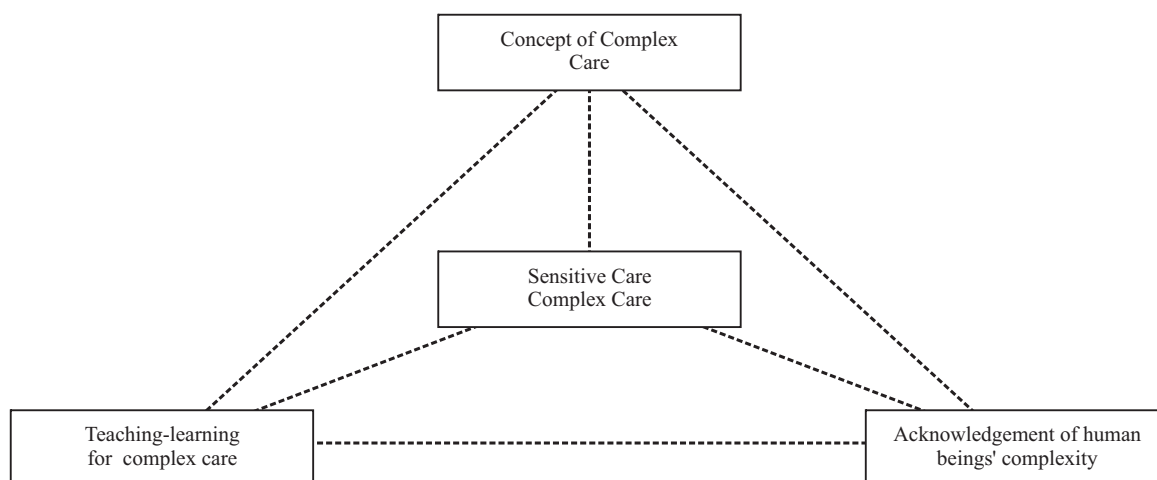


Figure 1 - Tetralogic Ring, adapted from Morin⁽¹⁵⁾

FINAL CONSIDERATIONS

We began with the presupposition that undergraduate and newly-graduated nursing students, somehow, perform complex care without the clarity to do so, i.e., without the full consciousness that they are practicing complexity in nursing care. Hence, we turned to Complexity and Complex Thinking for the support to reflect about teaching about care in nursing in the undergraduate nursing course, considering the essence of the profession and the current era in which we live.

We analyzed the interviews considering the principles of complex thinking. We understand that providing care in nursing is an essential activity in the practice of the interviewees, and that it is important to see the whole to provide care; that in theoretical-practical learning there is demand for the complex care that worries about the other, seeks to understand the other. They consider that the practice of interpersonal relationship is fundamental in nursing undergraduate courses to provide care for the whole and not only for parts of that whole. Hence, we believe that by incorporating complex thinking to linear thinking to teach about care in nursing undergraduate courses, we perform a mental activity that aims at: interconnecting and understanding the rigidity of logical thinking through the flexibility of dialogical thinking, which is capable of, at the same time, conceive complementary and antagonist ideas; complete the knowledge of the integration in parts of a whole, by recognizing the integration of the whole in the parts.

We should reflect that Complexity is a challenge that encourages us to thinking in a non-habitual way, including thoughts of ambiguity, antagonism, and the competition between opposites that are complementary: and that, sometimes, this is not at all comfortable.

We should direct our look and practice also to beyond what is visible, and reflect upon the presented information and that teaching-education in nursing undergraduate courses should provide the qualification of flexible and tolerant nurses, promoting human beings and citizens with more health, more conscious about themselves and about others, with greater capacity to love and understand, with more potentialities for complex care in nursing.

Hence, to think about university education from the perspective of complexity is to construct a pedagogical project that would create the necessary conditions for dialogue. To think about the teaching-learning process based on complexity, one should consider the presupposition that no form of addressing a learning object – in our case, Higher Education in Nursing and Care – has the guarantee of providing full and definite knowledge on that matter. For example, for a nurse to understand the reality of an ill person, simply having scientific and technical knowledge in Nursing is not enough. Humans are entwined with society, and disease has a cause that is immersed in a complex context. Part of this web is the individual bearing the disease; a being who is symbolic, poetic, recreational, affective... All that complexity interacts with the complexity of the environment, of culture, social institutions, moral, economy, religion... Hence, nurses of tomorrow must interface with areas of knowledge such as politics, the environment, economy, chemistry, physics... In this sense, the Tetralogic Ring aggregated the data found in the present study, that is, the three complex pedagogical indicators, favoring the pedagogical process with dynamicity. Finally, it is important for educational projects to be created collectively and be integrated. The closed circles should become punctuated circles, and ideas once seen as true should no longer be absolute and become temporary convictions, subject to dialogue⁽¹⁶⁾.

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