

Andragogical Methodology and Transdisciplinary Teaching in Distance Education

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Abstract

The current role of the teacher in Distance Education demands an inherent necessity of new skills and competencies imposed by the contemporaneity of distance graduation courses, since the cartesian/newtonian paradigm does not meet the methodological, ontological and epistemological demands found in highly complex realities such as the one of online education courses. The use of the andragogical methodology and its implications, together with the transdisciplinarity, has emerged as a new approach to rethink the reality, placing the subject as the center of the dynamic of life, perceiving the subject not only as someone with reason, but also as an intelligent, unique and willing to learn person, seeking the autonomy to exist and the necessity of being fully understood. This study succinctly investigates the definitions of Andragogy and its inseparable theoretical implications such as the constructivity, interactivity, complexity and transdisciplinarity related to distance teaching.

Key words: andragogy; distance education; transdisciplinarity.

1 – INTRODUCTION

There has been a great increase in Distance Education, especially in graduation courses in which the universalization internet and the access to IT facilities have allowed the incorporation of new social segments to the academic world. Adults markedly seek to resume an interrupted academic carrier and to proceed their studies and professional career through DL continuous improvement, even living far from large urban centers and universities. Distance Education enables a wide democratization of the access to formal education and also provides the opportunity of professional specialization meeting specific market demands, thus being a true process of knowledge based professional growth.

This reality implies in changes in the teaching practices since Distance Education follows the premise of having teachers and students in different places and, consequently, depending on technology to transmit information and to provide means of interaction. In 1972¹, Michael Moore published the Theory of Transactional Distance concerning these relations. This theory is also known as the Theory of Interaction at Distance.

The Theory of Transactional Distance states that the teaching and learning universe characterized by the separation between teachers and students should not simply be considered as a geographical separation, but also, and more important, as a pedagogical phenomenon that implies in different qualitative actions when compared to a conventional course. Moore [5] defines the transactional distance as the physical separation that allows the existence of a psychological and communicational space, therefore a space with potential for understanding or misunderstanding instructions between teachers and students, if this relation is properly established.

Distance Education brings the idea of students' independence, placing the distance as a positive force helping adult learners who will have higher possibilities of controlling and directing their learning. According to Tori [9], the student's autonomy has a direct relation on the learning structure and it is a way of reducing the transactional distance:

Humanist approaches are more dialogical, less structured and convey more autonomy to the student, while behaviorist strategies are based

on programmed instruction mechanisms, with the highest control of the teaching-learning process and little or no autonomy offered to the student. Nonetheless, it is possible to give students autonomy in more structured programs and vice-versa. [9].

Besides giving autonomy to the student, this transactional distance has two sets of correlated variables which affect the distance teaching-learning process: the structure and the dialog [5]. The structure is defined as the elements used in the elaboration of a course, which may be divided into: learning objectives, content themes, information presentations, case studies, graphic illustrations, exercises, projects and tests. According to Moore [5], dialog and interaction are different concepts, however interactions are necessary to create a dialog:

The word dialog is used to describe an interaction or a series of interactions having positive qualities that other interactions may lack. A dialog has an objective and it is constructive and valued by each participant. Each participant of a dialog is a respectful and active listener, offering contributions based on the other participants...the guidance of a dialog in an educational relationship is directed towards fostering students' understanding.[5].

It is important to emphasize that this interaction through dialog promotes a perception of the personal relation between those who teach and the ones who learn, causing a situation of enjoyment and motivation to the students. This perception may be encouraged by properly designed self-instruction materials considering the adequate interactive distance and based on an andragogical approach for distance graduation courses.

Many studies on the language based social nature of teaching-learning have their origins in Moore's idea of dialog. Additionally, one of the most significant learning theories was proposed by Vigostsky, in 1978, according to whom the dialog between teacher (the most competent) and the student is followed by a shift in the learning control process that passes from the teacher to the student. Thus, the student starts a course as a beginner dependent on the teacher through a language mediated tool, the dialog, and he progressively assumes responsibility for his own learning.

2 – THE ANDRAGOGY AND ITS IMPLICATIONS

The word Andragogy comes from ancient Greek, dating back to the times of Plato (IV b.c.), who used this word to express his concerns about the education of adults. *Andro* means adult and *agein* stands for guidance. In the 1960s the andragogy idea was revived as “the science and art of helping the learning of adults” and it was studied as an adult learners’ theory in contrast to the learning theories directed to children, known as pedagogy. Malcolm Knowles² was the mentor of this theory.

This way, different from the pedagogical model based on the art and science of teaching children, the andragogical model is based on the following premises:

- The necessity of knowing – before engaging in the effort of learning a certain thing, adults have the necessity of knowing it and they know better than children the necessity of knowledge.
- The learner’s self-realization – adults tend to have the self-realization that they are responsible for their decisions and, therefore, for their learning and for defining their own educational pathway.
- The role of the learner’s experiences – when adults engage in an educational activity, they bring a vast background of acquired experiences and in this process neither the teacher or the instructional resources may guarantee the interest on learning.
- Readiness to learn – adults have a more pragmatic orientation and are ready to learn things they need and to make the effort of doing so with the objective of effectively solving real life situations.
- Learning orientation – adults are centered in life, in its problem, duties and in the orientation of their learning.
- Motivation – behavioral research shows that all adults are motivated about continuous growth and development..

Knowles [4], states that the andragogy has come to face the educative complexity demanded by the adult, who has been receiving, as a common practice, a pedagogical treatment that does not take into consideration his background, interests and expectations. According to Karolczak [3], the

andragogy is based on principles that are strongly related to constructivism and interactionism, once adult learners build their knowledge from internal or external motivations.

Becker [1] says that the constructivism is based on the idea that nothing is completely ready or finished, and that knowledge, specifically, is not given, in any instance, as something finished. The knowledge consists of the individual's interactions with the social and physical media, of the human symbolism with the world of social relations. Knowledge is build through action and not through any previous gift from the genes or from the medium therefore one can state that there is no psyche, nor conscience and much less thinking before action.

The constructivism in education may be seen as a broad theoretical form that incorporates various current trends from the educational thinking, amongst which the uses of andragogical methodology of teaching and learning. The constructivism is the idea of knowledge as something that is never finished and, based on constructivism the contemporaneous technology sociology disagrees with the one-way progress thesis. The Critical Theory of Andrew Feenberg [2] claims that:

Constructivism defends that the technology theories are not determined or fixed by scientific or technical criteria. This concretely means two things: first that there are generally many possible solutions for a certain problem and that the social actors make the final decision within a set of technically viable options, and second, that the problem's definition frequently changes throughout the course of its solution.

Furthermore, social and physical media are a matter that has to be taken into consideration in Distance Education and the individual's interaction with this medium and its actions will contribute to the learning and knowledge acquisition process. In UAB (Brazil Open University) graduation courses, for instance, there are two presence facilities. These facilities are local and consequently the students from a certain branch live in a particular environment, region, with their own culture and values. Brazil is a very large country with multiple realities within its cultural and physical diversity, and this has to be considered during the teacher – student interactions in a virtual learning environment as the teacher must know the student's reality. It is important to emphasize that, according to the constructivism, the knowledge and the whole educational

process are built from the teacher and student's social realities, where a background complementation relation takes place.

Moraes [6] ideas about complexity corroborate the principle of non-linearity from constructivism:

Another important methodological principle of the complexity is the ecological principle of action which claims that our actions frequently deviate from our first intentions and produce unexpected effects often unpredictable and opposed to what was previously planned. Once triggered, any action becomes part of an interaction game in which the randomness, uncertainty and the unpredictability of the natural and socio-cultural environments are always present.

This author also defends that the non-linearity is easily perceived either in conventional or virtual learning environments. The non-linearity includes order, disorder and organization. This relation is usually present in graduation courses, once we are dealing with adult learners and according to the andragogical model, neither the teacher nor the instructional content guarantee the interest in learning due to the student's background and consequently, an online course has to be constantly reformulated and reorganized.

It is necessary to go beyond the limits imposed by the linear thinking, which reduces, fragments and simplifies knowledge and reality. We need new theoretical references, new paradigms capable of giving support to pedagogical practices. Fundamentals of epistemological nature such as complexity, inter-subjectivity, self-organization, emergency, interactivity, inter and transdisciplinarity may combat the traditional instruction based model still found in virtual learning environments. At the same time, these models give support for a better process of knowledge construction, for the learning development, for the networking knowledge, for the virtual learning communities, for the self-organization processes, for autonomy and creativity.

Transdisciplinary approaches intertwine, unite, and establish connections among each part of a whole. Moraes [6] warns that in order to think about the reality, one needs to be oriented by attitudes guided by the rigor of knowledge, followed by the sensibility to promote actions compatible with each context. This thought is of great value to the andragogical methodology. Nicolescu [7] says that the transdisciplinarity is "among", "through" and "beyond" the subjects. At this point, transdisciplinarity converges as a knowledge unifying agent, catalyzing connections and providing instruments for its practice. .

According to Santos [8], although the transdisciplinarity is a new word, the transdisciplinary attitude has been part of mankind for millenia. Nicolescu [7] says that “the prefix *trans*, from transdisciplinarity, refers to something at the same time *between*, *through* and *beyond* any subject”. Moraes [6] understands the transdisciplinarity as an open attitude towards the construction of knowledge, as a more elaborate and refined manner of thinking and realizing reality.

Teaching based on the transdisciplinary paradigm requires from the educator the effort to assume postures different from the binary logic, seeking to understand that there are other possibilities between two apparently apposite poles than the “or/or” pathway, but many paths marked by infinite “or”. The transdisciplinarity suggests the challenge from the pedagogical mediator in order to overcome the fragmented vision and to understand life processes through a complex point of view.

It is consequently, highly important that, besides coping with the emergence of new information and communication technologies (ICTs), the Distance Graduation courses also consider the specificities derived from the andragogical teaching and learning methodology. It is important for the teacher to understand the complexity of teaching and learning in distance graduation courses as well as to understand and apply the use of the Andragogical Methodology associated to the epistemological bases related to the transdisciplinary thinking. Moraes [6] summarizes:

Thus, a virtual learning environment is a physical or digital space that, besides providing technological resources necessary for the creation of the desired environment and for conveying knowledge, needs, above all, to engage every participant in a process of meaningful learning. This not only implies in a set of technological resources, but also in a system that involves a set of interacting elements in many ways such as the pedagogical, communicative, social and effective dimensions, from which a thread of operational dynamic relations emerges amongst the involved subjects.

Even though Moraes did not mention the andragogical model, it is possible to consider it implicit within the statement above.

3 – CONCLUSION

The overwhelming innovation of Information and Communication Technologies (ICTs) forces educators to merge technology, andragogy and its inseparable elements such as interactivity, constructivity, complexity and transdisciplinarity. It is important to point out that andragogy and transdisciplinarity can favor each other and then, harmonically act as enhancers in the learning of meaningful and contextualized knowledge aligned with the reality of adult learners. It is, therefore, the role of the teacher to develop and implement truly andragogical and transdisciplinary attitudes in order to face the challenges imposed by the high complexity of the teaching and learning in a distance graduation course.

It is also known that the implementation of changes in the teaching and learning in virtual learning environments using the andragogical methodology in a transdisciplinary point of view is still a challenge for most educators, once they come from a cartesian pedagogical process intended to a conventional set up. Nonetheless, the inseparability of Distance Learning, Andragogy and Transdisciplinarity needs to be thought and worked as an education process in which the teaching and learning relations are intertwined in the educational actions of a distance learning graduation course.

4 – NOTES

¹ At the time the ideas of andragogy from Malcom Knowles and the research on self-oriented learning from Alan Tough were at the peak of their popularity.

² Knowles Andragogy theory was introduced for the first time in American scientific literature in 1968. It is an attempt to develop a specific theory for the learning of adult people. Knowles emphasizes that adults are self-oriented and expect to have responsibility over their decisions.

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