LEARNING IN VIRTUAL ENVIRONMENTS, EXPRESSION OF EDUCATIONAL EFFICIENCY AND QUALITY

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Abstract

The arising question, within the context of this debate, is related to the concordance between school learning and students real life (utility and concordance with the individuality/ the dimensions of students personality. The issue includes multiple topics of discussion.

Virtual learning environments is a set of teaching-learning and evaluation tools designed to expand learning experiences through the use of ICT tools. We understand an integrated construction of the different elements that constitute the virtual learning environment.

Key words: Postmodern pedagogy; Flexible learning environments; Learning situations; Deep studying.

1. Traditional pedagogy and Postmodern pedagogy

The traditionalist school instructs and educate, postmodernist school guides and stimulates. Postmodern pedagogy appears as "self-reflective, decentralized, deconstructivist, non – totalitarian and non-universal and supports the imperative of being postmodern and adds what is your own", (Rosile, Boje apud Stan, 2004, p. 36). This pedagogical approach/ reality is correlated with the (new) understanding of the concept of "knowledge".

Knowledge is understood as "science", it is conceptually equivalent to it and is important from this perspective. For reasons of utility, knowledge "must be functional, useful; you learn not only to know and store a series of information, but also to demonstrate how educated you are" but you learn "to do" and "to use" what you know, to "apply" what you have accumulated for your own benefit and the benefit of others. Knowing what to do with what you have learnt is major goal of postmodern education" (Vocilă, 2010, in IES, 2014, p. 7).

Within postmodern paradigm there are pursued the construction and organization of knowledge. The quoted author shows a parallel between the characteristics of traditional pedagogy and those of postmodern pedagogy.

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**Table 1. The characteristics of traditional pedagogy and those
of postmodern pedagogy, (source: Institute of Educational Sciences, 2014, p. 8)**

Traditional pedagogy	Postmodern pedagogy
”Education promotes *universal values* (o.s.). Teachers help students to understand and support them. Among the important values there are *rationality and progress* (o.s.)”.	”Education helps students to create *their own values* (o.s.) that are useful within the context of their own culture. Important values there are considered to be: tolerance, fight for diversity and freedom, the promotion of creativity. Postmodern pedagogy admits the existence of differences of perspective, ideas and concepts, materialized in various ways of seeing, feeling and living”.
”Cultures becomes an object of study that students have to learn about, but it can be an obstacle to learning as well. Students from different cultures must be prepared for the culture promoted by school”.	”Cultures are respected, not only because they have equal value, but also because they are distinct, important realities in themselves. Students belonging to cultural minorities are stimulated to preserve their own values, fighting against the phenomenon of acculturation”.
”Traditional school prepares students to master one or more fields, cultivating their self-esteem and helping them to discover themselves”.	”Postmodern school considers self-respect as a prerequisite to learning. Educators help their students mostly *to build their identities* (o.s.)*,* rather than discover them”.
”*Educators* are the transmitters of knowledge*; the teacher is the main mediator of knowledge. Knowledge* is power (o.s.). Pedagogical relationships are based on teacher's authority and on student's <<domination>>”.	”*Educators* are facilitators of knowledge and participate to knowledge construction. *Knowledge* is achieved *when it is useful. The educator-educated relationships are open* (o.s.), based on mutual support, on constructive dialogue and cooperation. The teacher is an animator, a moderator, a facilitator”.
”*The* informative, instructive function, in relation with the formative-educational one, is highly valued”.	”It's important how student uses what he has learned, the emphasis being on formative, on the development of cognitive processes”.
”The disciplines are structured monodisciplinar*y* in the curricular plan”.	”There are favored *transdisciplinary* and *multidisciplinary* connections and approaches”.
”Within the teaching actions, the teacher is the one who decides how and why to transmit knowledge. Students' moments of initiative and autonomy are reduced”.	”The teacher-student relationship is resized, the emphasis being on dialogue, on negotiation processes. Autonomous learning is favored. Student intervenes in his decisions about his own learning and assessment methods”.
”The focus is on the instrumental dimension of educational process, there being the risk	”It takes into account the *structural dimension of the educational process*, aiming at *adapting the pedagogical*

of rigidity, of routine and extreme rationalization, coming from the teacher".	*resources* (o.s.) employed to increase the quality of teaching. It promotes close collaborations of school with educational community".
"*The lesson* is designed as a *succession of standardized moments,* result of the deterministic-mechanistic perspective between the objectives and the created learning situation".	"Activities have various locations, learning taking place not only in the classroom but outside it, as well. The learning process is important. Teaching involves ensuring the *synergy between information coming from formal ways with those from non-formal and informal sources, interconnecting the learning experiences*(o.s.) through trips, visits to museums, watching movies, reconnecting the students with the world, promoting investigations, interrogations, discussions".
"The assessment is standardized. There are used grid tests. The teacher is the one who has control over how, when and from what is the assessment given. Learning outcomes are important.	"The assessment favors negotiation processes which involve the decisional cooperation between students and teacher. The work done and real effects of training are jointly evaluated. Learning as a process is especially valued".

Within this context should learning as process and learning as dimension of a pedagogical, cultural reality, useful to the individual, be understood. The correlation between pedagogical postmodernism and the learning process is mediated by the idea of knowledge that must be achieved immediately, quickly, on individual unit, with representativeness value. That's why knowledge is the result of the interaction between the ideas and experiences of the learner.

The arising question, within the context of this debate, is related to the concordance between school learning and students real life (utility and concordance with the individuality/ the dimensions of students personality. The issue includes multiple topics of discussion.

We stick to few (of them): students' action types (including what is identified from the educational finalities of the school with their specific values, how postmodern school responds to students' structure and psycho-individual dowry), the contextualization promoted by school, the given learning situations (structuring, flexibility, their differentiation).

2. Learning like a specifically human activity

J. S. Bruner (1974) stated about learning that "the only completely characteristic thing that can be said about human beings is that they learn. Learning is so deeply rooted within human being, that it has become almost involuntary (...), our specialization as species is the specialization in learning" (Neacșu, 1990, p. 10).

Learning is a specifically human activity, and the mechanisms and structures involved, the achieving conditions in this process, are in continuous identification

and modification. Human learning is the individual and social strategy, "integrative, global, adaptive and anticipatory, interdependent" (Neacșu, 1990, p. 10) that gathers "experiences and innovations, potentialities and crystallizations of behavior".

Learning is the process that determines a change in knowledge and behavior: "the general indicator of learning is change; change can mean learning or not learning, adaptation or inadaptation; the experiences on which learning relies on are related to the perceptions and information coming from the environment and on their processing by the individual" (Schaub, Zenke, 2001, p. 146, in IES, 2014, p. 11). Only changes that are selective, permanent and oriented towards an established direction can be considered changes determined by learning.

Neurosemiotics and functional asymmetry of human brain attest the fact that "every cerebral hemisphere has its own conscious universe, being potentially, specialized for the processes of receiving and processing information" (Neacșu, 1990, pp. 27-31):

The right cerebral hemisphere (ECD) "governs the capacities of synthesis, of generalization; is responsible for the elaboration of the categories; makes dominant connections for spatial perceptions, for forms; is specialized in images, efficient in forming concepts with a high degree of intuitiveness (synthetic), based on analog (non-algorithmic) processes, is specialized in nonlinear global stimuli, regardless of meaning; facilitates creative visual, imagistic, holistic syntheses; operates with infinite utterance or linguistic units, language based on standard rules, strong semantics (Ivanov, 1985, apud Neacșu, 1990, p. 32); establishes associative links between the objects of the surrounding world (associative cortex), processes information".

The left cerebral hemisphere (ECS) "governs analytical abilities, is responsible for the elaboration of apollonian categories (order, measure, balance, harmony, clarity, lucidity); it is dominant for thought processes, coordinating symbolic operations; it is effective in analyzes, for logical stimuli, for sequential and linear stimuli (which are chained in simple progression); allows control of internal structures, mechanisms and correlations between inputs and outputs to and from the psychic system; accurately anticipates the solutions of a series of operational transformations; facilitates the construction and words links; realizes the word-concept correlation; ensures the overlap of conceptual-logical aspects over the concrete images formed in the right cerebral hemisphere; distinguish and compare".

It is a proven fact that stimuli through which information is received "determine a preferential way of processing data by one hemisphere or the other, or by both" (Neacșu, 1990, p. 32). From this perspective, visual information is treated with priority by the opposite cerebral hemisphere/ contralateral to the visual half-field in which the visual half-field in which the stimulus appeared (Kimura, 1973, apud Neacșu, 1990, p. 32). The same quoted author claims that "the position of stimuli in the visual field influences performance in memorizing them (...), as there is the hypothesis of concordance between the direction of the glance and hemispheric specialization" of a person.

The main areas of learning theorizing focus on learning („with the structures/ dimensions, types and obstacles / main elements in understanding and achieving it"), theoretical bases ("the involved psychological, biological and social conditions"), inner conditions (emotional states, age, subjective situation") and external conditions ("learning space, society, objective situation"), directly involved in learning and possible applications ("pedagogy, educational policies") (Illeris, 2014, p. 23).

In the vision of K. Illeris, (2014, p. 30), the learning model is a constructivist one, in which "the student actively builds his own mental structures (dispositions) for learning", fulfilling the need to "organize the effects produced by learning" and which involves four types of learning, realized depending on the context: cumulative learning (associated to conditioning in behavioral psychology, mechanic, automated, isolated information, that is not part of anything else, a content that can be reactivated and applied only in situations similar to the learning context), learning by assimilation ("a connection between a new element and an already established pattern/ scheme"), learning through accommodation/ transcendence (breaking some parts of an existing scheme, so that a new situation can be associated with it", learning "perceived as a truly internalized understanding or acquisition") and comprehensive/ meaningful learning (Rogers, 1951, 1969)/ expansive (Engestrom, 1987)/ transitional, (Alheit, 1994)/ transformative learning (Mezirow, 1991), „involving changes ofpersonality in the organization of self", (Illeris, 2014, pp. 31-32).

The intellectual training of young people, the informational-methodological competence (in terms of students), but also the pedagogy of intellectual work (which refers to teachers Davies, 1969, apud Neacșu 1990, p. 158) are in the form of an inventory of capacities meant to direct and develop students' mental specificities involved in the training process, but also to methodologically facilitate the teachers' approach.

K. Steinbuck (apud Neacșu, 1990, pp. 161-162) formulated a number of priorities:

▪ to have the necessary training (potentiality and availability, motivation) and the ability to learn constantly, to respect the specifics of the activity and the freedom of the other, to make a personal contribution (...);

▪ to show the conscious joy of being able to solve problems;

▪ have the capacity to think logically, analytically, critically and structurally; to think operationally - to plan time and means, to organize; to set goals and choose; to cooperate; to persevere - to be steadfast in heavy demands, to concentrate and be precise (...).

From a pedagogical perspective of learning, information refers to the identification and evaluation of learning sources in a learning situation (selection and analysis of relevant information), as well as the correct use of information for problem solving and meta-evaluation. The awareness of one's own learning style, knowledge of the laws / principles that govern one's own learning process, the need for knowledge in current society and of the type/ way of knowledge that one needs,

the speed, efficiency and usefulness of knowledge are priorities and horizons of development for the student.

In order to learn, a student needs clarifications related to the sources and resources of information used in learning, methodology of learning/ studying (attention, control, self-control, learning motivation, different correlative variables in the learning horizon: "the symmetry and asymmetry of the relation between the learning subject and learning content, the necessary learning time, unity and diversity within the relation between the subject – learning type, usefulness/ need for repetition, rediscovery among old knowledge and integration of new knowledge" (Neacșu, 1990, pp. 93-113).

The information process is based on the operation of documentation, data gathering, of edification, but, within a subjective approach, it refers to being aware of, to becoming aware of. Learning as a process is based on being aware of the steps taken and pursued personal interest. In learning, it matters how the information is received and the procedural perspective through which it is processed.

This requires the involvement of the learner in planning, monitoring the progress and the learning assessment. In the learning design stage, beyond the content proposed/ assumed to be learned, it is important to be informed about the field of information, the possibility to connect with what has been acquired previously and, then, to structure the information/ concepts.

This stage involves assessing the amount of the information required, the effectively accessing the needed information, critically assessment of information and its sources, and efficient use of the information to achieve a specific goal.

A possible guiding system consists of the following questions:
- What do I know about the subject?
- Why do I need more questions about the subject?
- What type of additional information is required?
- Is the required information, contextual or general?
- What do I believe/ feel/ what is my point of view on this matter?
- How current (old/ new) is the information?
- How do I essentialize the information?

This personal manner of erotetic is important for understanding the usefulness of the information accessed, from a learning perspective. Planning the information, structuring it, essentializing it, identifying the degree of difficulty in terms of information/ the level of difficulty in understanding / retaining, interpreting, applying, transferring them, integrating into what is known are the premises for effective learning. Continuing the learning process with monitoring / awareness of progress and assessment of learning ensures the success of learning.

The learning ability is influenced by exercise, by practice. Therefore, in the stage of structuring the information it is necessary, perhaps more than at another moment of the instructional path, the practice, the exercise, their rhythmicity and constancy. For an effective learning, organizing and structuring the information is imperative.

Added to this, is the *understanding of the information*: "there are three main levels of acquisitions that teachers need to consider when they prepare, teach or evaluate their lessons – *the surface knowledge needed by students* to understand concepts (surface understanding), a *deep understanding of how ideas bind together* and develop in other meanings, *conceptual understanding* (theoretical thinking) that allows deep and surface knowledge to be transformed into hypotheses and concepts on which to be built new agreements (Hattie, 2014, p. 160).

A balance is recommended in the design of educational objectives which aims at these levels of understanding for students, especially since the educational practice proves that the level of understanding sought to be achieved through day-to-day design is the surface one, less a deep and rarely a conceptual understanding, emerging from other constructions.

The three levels of understanding are important to be pursued within educational planning, they being correlated with formative assessment, self - assessment and meta-evaluative disposition of students during the learning process.

3. Creating new learning situations based on digital education

Creating new learning situations/ opportunities, based on digital education requires features such as: quick content updates, data sharing, networking.

E-learning aims access to the latest information, acquiring new knowledge, continuous learning, *new and effective learning methods*.

"Virtual learning environments" is a set of teaching-learning and evaluation tools designed to expand learning experiences through the use of ICT tools. We understand *an integrated construction* of the different elements that constitute *the virtual learning environment.*

At the same time, "the integration of the computer into the learning process leads to functional and relational folds that also reverberate in terms of curriculum structuring on operational alignments (...)" (Cucoș, apud Ceobanu, 2016, p. 7).

The folding may be understood to the regard of learning as a restructuring of the studying-group, "which is no longer classically defined, along the line of of strictly physical assembly, *but by a-synchronous, a-spatial, virtual connectivity",* (*ibidem*).

Among the advantages that can be identified: independent learning, learning in the desired place and time, respecting the learning styles, integrating a variety of learning environments: text, graphics, image, sound, two-way communication, offers the possibility of synchronous learning, collaboration and exchange of ideas, interactive learning, creation of virtual classes, is not chronophage (time saving), a high-performant learning environment, requires technological resources that (albeit high cost), once procured, can be used for a long time, connect people (teachers and students/students from a distance, overcome challenges (as in the case of the COVID pandemic 19).

Learning in virtual environments can be considered an investment: the accessibility, interactivity, flexibility or providing specific and direct feedback, are some of the aspects that can characterize the investment value of the new learning environments.

By properly organizing virtual learning environments "there are being created learning situations that encourage deep studying" (Botnariuc, 2006). This is because they "promote interaction between students..., asking them to express their ideas..., which are then critically evaluated by the members of the group..., obliging them to clearly convey their ideas to others" (Palincsar, Brown 1984, *apud* Verburgh, Mulder, 2002).

Research shows that the formulation and expression in words of one's own ideas have a positive effect on the processes of learning because "in order to convey one's own knowledge and make it intelligible by others, it is necessary that the assumptions and implicit methods of argumentation be rendered explicitly..., this process tending to highlight the misconceptions and lack of clarity in one's own thinking... , and in addition, (due to the fact that) the cognitive faculties of a single person are limited, and complex hypotheses can be better examined by a group of people, since together, they can have a broader picture of the problem than each individual" (Palincsar, Brown 1984, apud Verburgh, Mulder, 2002).

F. Scheuermann and M. Mulder (2002, apud Botnariuc, 2006) distinguish between two ways of using information and communication technologies in education: as *a platform for the development and offering of products for teaching-learning and as a tool for organizing learning content and resources*.

In both cases, arises the question: "whether open and flexible learning environments built with information technologies will lead us to a more qualitative, effective and efficient education and how these new education models should be implemented".

The superiority of the new education models is indisputable, provided that a set of new requirements is met:
- "the development and implementation of an e-learning course must contain a specific didactic conception, which requires much more intensive work than a face-to-face course, through the prior preparation of details, interaction and learning sequences;
- the didactic conception has to be supported by a *conception of technical achievement*, which requires prior planning and testing; – organizational activity involves a large amount of work: responsibility for requests, collection of information about participants, etc.;
- the necessity of providing assistance to participants throughout the training period, even on weekends;
- technical, didactic and content developments require teamwork and clear designation of responsibilities, creation of new spaces and appropriate coordination" (Scheuermann, Mulder, 2002, apud Botnariuc, 2006).

4. Conclusions

Financially, new learning environments require immediate but economically addressed investments, provide efficiency and educational performance. Investments in the creation of virtual learning environments cannot outweigh the

advantages offered by their use, especially in specific situations (adult education, distances, lack of time) or imposed pandemics, calamities.

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