

## PARAGOGY. A NEW THEORY IN EDUCATIONAL SCIENCES

**Prof. Dorin HERLO, PhD**

**“Aurel Vlaicu” University of Arad**

**Faculty of Science of Education, Psychology and Social Work**

**dorinherlo@gmail.com**

**Abstract:** *The concept of „paragogy”, appeared in the first decade of the 21st century, it’s a new in-comer in educational sciences. Paragogy came to characterize the critical study and practice of peer-learning (literally, “para-” alongside, “-gogy” leading, here adapting the classical concept of „pedagogy” and the recent notion of „andragogy” to a peer-learning context). Paragogy addresses the challenge of peer-producing a useful and supportive context for self-directed learning, based on connectivism between peers in the digital era. This mean creating "wisdom" starting from "data", "information" and "knowledge". So, paragogy deals with a very important challenge, that of analyzing and co-creating the educational environment as a whole by the peers, which share their learning situations and experiences benefiting of information technology.*

**Keywords:** *paragogy, peer-learning, self-directed learning, peer production of content, connectivism*

### **Introduction**

The 21st century is in a constant change and we must to have open minds to “the new culture of learning”. In their book “A new culture of learning” (2011), Douglas Thomas and John Seely Brown [1] pursue an understanding of how the forces of change, and emerging waves of interest associated with these forces, inspire and invite us to imagine a future of learning that is as powerful as it is optimistic.

They pointed out that our understanding of what constitutes „a new culture of learning” is based on several basic assumptions about the world and how learning occurs such as:

- *The world is changing faster than ever and our skill sets have a shorter life;*
- *The world is getting more connected that ever before;*
- *In this connected world, mentorship takes on new importance and meaning;*
- *Challenges we face are multi-faceted requiring systems thinking & socio-technical sensibilities;*
- *Skills are important but so are mind sets and dispositions;*
- *Innovation is more important than ever – but turns on our ability to cultivate imagination;*
- *Play is the basis for cultivating imagination and innovation.*
- *Understanding play is critical to understanding learning;*

• A new culture of learning needs to *leverage social & technical infrastructures* in new ways;

Taking in consideration all these basic assumptions, we can already propose "submersion" in concept of *paragogy*. Highlighting the fast paced nature of the web, Thomas and Seely-Brown (2011) suggest that *peer learning* can be both timely and transient. They show that never before has access to information and people been so easy and so widespread, and that we *make connections* with people who can help us manage, organize, disseminate and make sense of the resources. Such *interconnectedness* and *willingness to share* creates a new kind of *peer mentoring* that operates at multiple levels and many degrees of expertise, supporting learning in all its complexity.

In the digital age both students as well as educators we are a species of learner who can see, hear, and speak „through walls” and around the planet because information is what gives us experience meaning and we do not merely consume the information. Our halls and seminar rooms — what they look like, how the furniture is arranged, what teachers and students do, what is taught, how it is taught, and why — are all modelled after old and outdated stories that are still being told by our culture. We must change these stories and tell new ones, based on a new world, a world of information, an unpredictable future, almost unlimited opportunities, a new kind of student, and compelling new learning experiences that have never been possible before.

It must to search and try to understand the new tendencies of a new culture of learning of which part is *paragogy* (*peer learning*) associated with *connectivism*.

### **Paragogy. A new theory for informational society**

The term *paragogy*, as it proposed by his founders Corneli and Danoff [2,3], it use to characterize the critical study and practice of *peer learning* (literally, “para-” alongside, “-gogy” leading, here adapting the classical concept of *pedagogy* and the recent notion of *andragogy* to a peer learning context).

*Paragogy* is defined in contradistinction to another neologism, *andragogy* by turning Malcolm Knowles [4] principles of adult education, by 90 degrees. Knowles's five principles of andragogy being:

- (1) that adult learners are self-directed;
- (2) that they bring a wealth of experience to the educational setting;
- (3) that they enter educational settings ready to learn;
- (4) that they are problem-centered in their learning; and
- (5) that they are best motivated by internal factors.

*paragogy* adjusts each one of Knowles's five principles to the *peer-based learning context*.

Paragogy principles were adjusted because paragogy deals with a very different challenge, that of *analyzing and co-creating the educational environment as a whole*.

The five paragogical principles [5] are:

1. *Context as a decentered center.* „For learning design in a peer-to-peer context, understanding the learner's self-concept - in particular, whether they see themselves as self-directed or not - may be less important than understanding the concept of „shared context in motion”. This principle stresses the importance of understanding the idea of shared context in motion. The idea of „shared context in motion” can help us think about how a context constrains or supports different types of (inter-)actions, and also about how we (re-)shape the contexts we find ourselves in.

Nonaka and Toyama [6] take this idea and apply it to knowledge creation. They suggest that knowledge is created as people interact over time in a shared context, in a process that can be broken up into repeated phases they call Socialisation, Externalisation, Combination, and Internalisation (SECI). In simple terms, any given phase can be understood in terms of „what I do”, „what we do”, „how we do it”, and „what it's all about”.

This first paragogical principle says that instead of focusing on how learners see themselves (e.g. as „self-directed” or „dependent” or something else), we should be asking how the learning context shapes what learners are actually able to do. Note that this includes looking at ways in which learners can contribute to reshaping the learning context.

Instead of simply saying „so-and-so lacks the required understanding of learning, so I need to help them”, a paragogue would also look for contextual features of the learning environment that are „blocking” self-directed learning. These may include features that block the ability of learners to make adjustments to the environment on their own behalf, or which limit their ability to ask for help.

In paralogy, it recognize that are not merely teachers or learners, but are partners who actually co-creating „the environment”, the learning context as a whole. At a minimum, a learning environment contains:

(a) the learner;

(b) a „setting” or a „space” wherein the learner acts, using tools and devices, collecting and interpreting information, interacting perhaps with others, etc.

Therefore, in the paragogical view, the environment should not be taken as “given” but should instead be viewed as co-created by peers.

2. *Meta-learning as a font of knowledge.* „We all have a lot to learn about learning.” Here we are concerned both with efforts to “learn how to learn”, and efforts to learn how to support others in their learning efforts. From the other perspective, in a proper analytics of a learning landscape we ought to ask, as well: what learning? and why this learning?

3. *Peers are equals, but different.* „The learner mustn't seek only to confirm what they already know, and must therefore confront and make sense of difference as part of the learning experience.” Clearly, differences pose challenges but these are worth grappling with.

Firstly, for psychological reasons: in many domains feedback is only available from peers (but of course, peer learning can be relevant in domains like computer programming, where automatic feedback does exist).

Secondly, there are philosophical or political reasons to affirm difference. In a peer learning space, which aims to provide „learning for everyone, by everyone, about almost anything”, it can hardly avoid developing an „understanding of social relations without domination in which persons live together in relations of mediation among strangers.”[7]

From another point of view, for the peers to work in a small closed group, versus the choice to work as a group embedded within a larger commons, rise the question: how much difference do we want to confront while engaging with the learning process?

4. *Learning is distributed and nonlinear.* „Side-tracking is OK, but dissipation isn't likely to work. Part of paralogy is learning how to find one's way around a given social field.” Learning does not go in a straight line [8]. In particular, involvement in co-creating the learning context becomes an important “strand” in the paralogical understanding of peer learning and for the peers there are also some issues and requirements such as: the potential objects of peer learning must be modular (distributed and nonlinear); the modules be small in size; the integration of them into peer learning process must run at a fairly intellectual effort.

5. *Realize the dream, then wake up!* „Paralogy is the art of fulfilling motivations when this is possible, and then going on to the next thing.” But without clear goals, there will be nothing to realize. Without critical thinking about goals (leading us to change them), learning is a mostly passive game. Paralogy calls for a strategy of “deliberate practice” [9].

The paralogy principles provide guidelines on best practices for building successful peer learning experiences and, to implement these principles, the authors of this theory proposed four steps that could be taken into account:

- i. Review what was supposed to happen (training plans).
- ii. Establish what happened.
- iii. Determine what was right or wrong with what happened.
- iv. Determine how the task should be done differently the next time.

The stated purpose of its is to „identify strengths and shortcomings in unit planning, preparation, and execution, and guide leaders to accept responsibility for shortcomings and produce a fix.”

On the other hand, it is important to note that while one person typically plays the role of evaluator in such a review, the review itself happens among peers, and examines the learning unit as a whole.

Our approach about *peer learning* is in a sense of something we all know how to do, but can't always do well. Intuitively, there are bound to be difficulties for a group of peers studying a subject together, outside a traditional classroom or without a teacher. Indeed, peer learning is different from other forms of group effort, the proverbial “barnraising” for example, in which the persons involved can be presumed to know how to build barns – or at least to know someone who knows, and stand ready to take orders. Typically, peers are not experts in learning, didactics, or in the subject

they are studying, and are faced with multiple difficulties associated with putting together knowledge about the subject, assembling a suitable learning strategy, and communicating with one another.

In pedagogy and andragogy seems to be that an educator or facilitator is part of the picture. In paralogy (peer-based setting), that may not be the case: we can easily find examples of learning environments where there is no „teacher” in the „classroom”; where, for example, the task of facilitation is shared among all participants or even encoded in the learning materials or supportive technologies. Not that one way is more desirable than another: it simply mean to highlight the fact that the most basic features of a given learning environment will influence everything else. In particular, it seems to us that a move to the more „horizontal” regime of paralogy can often occur within pedagogy or andragogy, e.g. when inviting participants to interact; and vice versa, a move to a more „vertical” regime of pedagogy or andragogy is possible within paralogy.

The fact that „παράγωγή” is a word in Greek meaning “production” shall not dissuade us from this new usage in English, knowing that nowadays the learning is student-centered learning and this means that is frequently demanded to be at the heart of „peer production” of the students and professors.

The links between paralogy and peer production were explained. As Phillip Schmidt [10] writes: „Upon closer inspection of commons-based peer production communities, we find learning at their core”. Conversely, in the conclusion to „Education and Mind in the Knowledge Age”, Carl Bereiter [11] writes: „Schools are places where knowledge creation can go on, but where it does not have to be market driven or competitive. ...Knowledge creation in schools is the creation of knowledge by students for their own use. ...To the extent that knowledge created in schools has value beyond the classroom where it was created, it enters into a barter economy.”

The notion of „paralogy” relates to the *peer production of learning* but as Corneli (2012) warns, such an agenda may be at odds with established educational systems in some respects, and may even be opposed by some. This is due to the challenge that „students teaching themselves” might pose to the privileged knowledge and power structures many formal educational institutions continue to hold in such high regard.

In essence, Corneli and Danoff’s paralogy thesis is premised on the argument that online environments are now sufficiently developed to support *peer production of content* which can be shared freely and widely, and can promote learning for all within any given community.

But, at the same time, presenting a challenge in terms of the quality, reliability and provenance of content. The user generated content currently available on the web has been criticised for its inconsistent quality [12] and its potential to encourage

plagiarism, piracy and a host of other nefarious practices [13]. User generated content has also attracted criticism over issues of mediocrity, lack of accuracy and superficial scholarship [14,15]. Notwithstanding, many are now turning to web based user generated content to educate themselves and to share their learning. In many ways, the ability to use personal technologies to create, organise, share and repurpose content, in many formats across the global web environment has become a democratising, liberating factor in education.

There are now a variety of new ways we can create peer networks, learn from each other and share our ideas. In so doing, we are building what Illich (1971) once termed „the learning webs” [16] that will enable each of us to define ourselves by both learning, and contributing to the learning of others.

Reflecting on education-relevant potential of paralogy, Martin Weller [17] writes: “It is [...] no easy task to adopt a decentralised model, since it will require massive procedural, economic and professional change in higher education”. It would argue that what’s new here is not simply a disruptive force in the traditional educational landscape: there is also a compelling chance to understand learning better. It hope that further developments in paralogy can contribute to this process in a practical way.

The founders of paralogy encourage the research community to test their ideas in practice of various forms and come with some proposals for paralogical design in its implementation:

- Establish a group consensus for expectations/goals/social contract of the course and how each of them should be evaluated at its conclusion.
- Have learners designate learning goals that they then commit to stick with.
- Formalize a process for assisting peers (e.g. responding to questions, giving feedback on publicly posted work).
- Develop explicit pathways for learner feedback to translate into changes to the learning environment.

These could be for educational scientists, the milestones to deepen and research on this new path of educational sciences.

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