



Evolution of Education: Pedagogy, Andragogy, Heutagogy and Cybergogy

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ABSTRACT

The purpose of this paper is to provide an overview of the theoretical foundations of various terms in Education i.e., Pedagogy, Andragogy, Heutagogy and Cybergogy. In addition, the tenets of andragogy, including its linkages to transformative education are presented. Heutagogy, which is self-determined learning, is also presented. This paper also provides a discussion of whether pedagogy, andragogy, heutagogy and cybergogy are on a continuum or can be exhibited at any time during the educational experience, particularly with the advent of more advanced educational technologies.

Key Words:

Andragogy: the teaching of adults

Behaviorism: learning epistemology where knowledge is gained through stimulus and response

Cognitivism: learning epistemology where facilitating learning is dependent on the understanding of the human mind

Constructivism: learning epistemology where knowledge is created through interaction between their experiences and ideas (or content)

Epistemology: a theory

Heutagogy: self-determined learning

Holistic Learning: encompassing all aspects of the learning experience; not just knowledge, but true learning and critical thinking

Pedagogy: the teaching of children

Self-determined Learning: self-regulated and self-directed learning; internal motivation to learn

Self-directed Learning: taking action and responsibility for one's own learning

INTRODUCTION

Today's learning landscape is enriched with a variety of new concepts that were to the recent past foreign to many. Of course learning is a dynamic field and it will always keep developing as human knowledge progresses. But the last two to three decades in particular have witnessed the outburst of several new conceptions and theoretical frameworks that, among other things, attempt to capture the latest developments in learning. This paper features a number of these concepts and explains them in detail. This paper will present multiple educational theories that have led to models in pedagogy, andragogy, heutagogy and cybergogy.

PEDADOGY

The Merriam-Webster Dictionary Online (2020) defines pedagogy as "the art, science or profession of teaching" (p.1). Smith (2012) defined it as "the art and science (and maybe even craft) of teaching" (p. 1). Knowles (1973) defined it as the art and science of teaching children. Pedagogical principles began around the time a more formal educational experience was adopted about 13 centuries ago in the monasteries of Europe where monks were the most educated of the population at that time. The

term comes from the Greek terms *paid* and *agogus* which mean leader of a child (Holmes & Abington-Cooper, 2000).

ANDRAGOGY

This concept of andragogy was first defined by Alexander Kapp in 1833 to describe the teaching style of Plato who formalized Socratic principles. Merriam Webster Dictionary Online (2020) defines andragogy as "the art and science of teaching adults." Knowles (1970) defined it as the art and science of helping adults learn.

While andragogy is student-centered or student-directed learning, heutagogy is self-directed learning. Heutagogy is a much more holistic approach which teaches students how to learn and gain the competencies and skills they need for their selected field. In simpler terms, pedagogy is faculty-centered education, andragogy is student-centered education and heutagogy is self-directed and transformative.

Knowles brought the idea of andragogy into the learning community in the 1970s when he proposed there is a difference in the way adults learn.

Knowles (1970) developed five assumptions that underlie his theory of andragogy:

- Adults are self-directed learners.
- Adults bring a great deal of experience into the classroom.
- Adults who seek education are ready to learn.
- Adults are internally motivated.
- Adults want problem-based learning.

Knowles did not view andragogy as a true epistemology. Instead he viewed it as a concept rather than a theory. He based his work on that of constructivists, in particular Carl Rogers. He also based it on the hierarchy of needs developed by Abraham Maslow. As learners continue to mature, they become more self-directed (Blondy, 2007).

Knowles (1980) outlined a seven-step process for faculty to promote andragogy:

- Develop cooperative learning environment
- Involve learner in the setting of goals
- Diagnose learner needs and interests
- Help learner formulate objectives based on his/her interests and needs
- Design sequential learning experiences to meet these objectives
- Meet objectives with materials and resources
- Evaluate the quality of learning and impact on future learning

In Table given below is a comparison of the major tenets of Pedagogy and Andragogy.

Comparison of Pedagogy and Andragogy

| Concept | Pedagogy | Andragogy |
|------------------------|--|---|
| Role of Learner | Dependent | Self-Directed |
| Role of Faculty Member | Delivers knowledge | Facilitates Knowledge |
| Experiential | No | Yes |
| Primary Activities | Lecture-Based; Objective Testing | Experiential Strategies: group work, case studies, simulations, field experience; varied types of testing |
| Readiness | Are told when they are ready | Decide what additional knowledge is needed |
| Sequencing | Step-by-step uniform progression | Based on learner skills and readiness |
| Learning | Facts which will only be useful later on | Process-oriented for future potential |
| Curriculum | Simple to Complex | Competency-based or categorical |
| Age Group | All age groups; but primarily K-12 | Higher education (although concepts can be applicable to K-12) |
| Motivation | External | Internal |
| Knowledge | Done without question | Must understand why it is important |
| Readiness to Learn | What is required | When content is relevant |
| Focus | Subject-centered | Life-centered |

Most theorists have continued to maintain that there is a dichotomous relationship between pedagogy and andragogy. These differences truly fall into two different subsets:

- 1) the issue of age
- 2) the issue of teacher versus learner-directed learning.

Are there truly differences between pedagogy and andragogy? Initially Knowles theorized the more mature the learner, the higher the tendency towards andragogy. But when does this actually occur? Does it occur for most between 18 and 22 when students are completing undergraduate education? Is it different for each student?

Delahaye, Limerick and Hearn (1994) hypothesized learners can use pedagogical and andragogical

principles at the same time and identified four stages of learning:

- Stage 1: High Pedagogy Low Andragogy
- Stage 2: High Pedagogy High Andragogy
- Stage 3: Low Pedagogy High Andragogy
- Stage 4: Low Pedagogy Low Andragogy

Stage 1 and 2 learners are pedagogy-oriented while stage 2 are both pedagogy and andragogy-oriented. Stage 3 learners have a preference for andragogy while stage 4 learners are completely self-directed.

HEUTAGOGY

Heutagogy was first defined by Hase and Kenyon (2000) as a “form of self-determined learning” (p.1). Heutagogy is built upon the concepts of double-loop learning outlined by Argyris and

Schon in 1974 who noted all students have mental maps and governing variables. These governing variables are dimensions the learner is trying to keep within normal limits. In single-loop learning, students choose other strategies in keeping with their own internalized goal when something goes wrong.

In other words, if a student gets an incorrect answer in a math problem, he reworks the problem a different way to try to get the correct answer. The governing variables might be the time he is willing to spend, if it is acceptable to ask for help or even if it is acceptable to cheat in solving the problem. In double-loop learning the learner does not seek out different strategies to fix an error; instead, the governing variables are examined. In the case of the math problem, a better solution may be to ask someone for help in understanding and solving the problem. In essence, rather than just dealing with the symptom, double-loop learning involves getting to the root cause of a problem which usually is related to underlying norms, policies, procedures or processes. In double-loop learning the learner analyzes and evaluates the situation more holistically.

According to Hase and Kenyon (2000), heutagogy is not a linear process but rather includes “capability, action learning processes such as reflection, environmental scanning (as used in systems theory) and valuing experience and interaction with others. It goes beyond problem-solving by enabling proactivity” (p.2). In true heutagogical approaches the teacher provides the material, but the students decide how to negotiate

the learning process. Education becomes a learning process rather than a means to an end, and control shifts to the learning. Methods include action learning and action research which facilitate lifelong learning. Hase and Kenyon noted that technology can definitely facilitate the move to a heutagogical model.

A heutagogical design contains the following elements:

- Learning contracts
- Flexible curriculum
- Learner-directed questions
- Flexible and negotiated assessment (Blaschke, 2012)

Course design elements can include:

- Reflective journaling
- Action Research which allows learners to experiment with real-life situations
- Formative and summative assessment
- Collaborative learning (Blaschke, 2012).

McAuliffe, Hargreaves, Winter and Chadwick (2008) proposed the following principles of heutagogy:

- Knowing how to learn is a crucial skill
- Educators focus on learning process rather than content
- Learning goes beyond specific discipline
- Learning occurs through self-chosen and self-directive action

They also noted educators tend to return to the time honored practice of pedagogy because they truly do not understand how to facilitate andragogical and heutagogical learning.

Difference between Andragogy and Heutagogy

| Andragogy | Heutagogy |
|------------------------------------|----------------------------|
| Content Focused | Process Focused |
| Instructor and Learner Coordinated | Learner Directed |
| Single Loop Learning | Double Loop Learning |
| Linear Learning Design | Non-Linear Learning Design |
| Competency Development | Capability Development |

Gerstein (2013) defines Education 3.0 as a “connectivist, heutagogical approach” (p. 1). In this model, she notes schools are literally everywhere and resources are there for the taking. These can include open educational resources, MOOCs, and multimedia in addition to traditional learning resources. However, in addition, she notes there is still the need for pedagogical and

andragogical approaches depending on the task at hand.

CYBERGOGY :

The need for new learning opportunities based on information and communication technologies positioned the online learning in the center of various discussions about education. In this context, new concept emerged: cybergogy.

This concept refers the online self-formative process (Carrier & Moulds, 2003 and Wang & Kang, 2004, Wang, M, 2008). The cybergogy represents the synergy between the fundamentals of the andragogy and pedagogy, articulated with the web paradigms.

This new paradigm has been developed by Minjuan Wang, who has highlighted the facilities provided by the virtual space for the autonomous and collaborative learning. In this case, the learner has the opportunity to achieve his learning objectives in a flexible way, according to his profile and to his personal way of time management. Cybergogy describes strategies for new learning experiences, based on the person's active engagement in the learning process, being a component of the self-formative paradigm.

The theoretic cybergogy model integrates the cognitive, emotional and social processes of engaged online learning (Wang, M. J. 2008). Due to the lack of time, the adults prefer the online learning which enables a flexible time planning and a greater accessibility to the information. In this new created context, the self-formative paradigm is strongly linked to the intensive use of the virtual environment, in an informal and non-formal way. The subject/learner could be involved in self-formative processes aiming at finding solutions to various personal or professional problems or improving his professional profile. The cognitive web resources cover a wide palette, and various structured or unstructured presentation forms (wikis, virtual libraries, virtual dictionaries, blogs etc.). In addition, the web space provides online self-training facilities, integrating structured resources (online learning units, self-evaluation tests and links to other related web resources) and providing a single access point for a specific topic. Using the web space facilitates, virtual learning processes (e-Learning) could be designed, enabling an autonomous and independent learning process in an informal way.

The model proposed aims at facilitating the acquisition of new foreign language competences and new communication skills in a multicultural organisational environment, with direct impact on a better social insertion. The implementation of the model has took into consideration the Bloom's and Anderson's cognitive and affective taxonomies (Bloom, B.S., 1956), articulated with the intercultural sensitivity dimension introduced by Krathwohl (Kratwohl, D.R., Bloom, B.S., Masia,

B.B. 1964), and with a pragmatic approach introduced by the research team. This holistic approach integrates various views related to foreign languages learning, according to the European Framework for Foreign Languages. The concrete implementation of the e-Learning system refers the English language learning, including the American and Australian English approaches. In this perspective, the cybergogy represents an extension of the auto-formative paradigm, enabling the personal and professional development and, consequently, employability.

SUMMARY

This paper provides a brief overview of the epistemologies that are important in curriculum and learning. Many faculty cling to pedagogy because it is what they know.

References

- Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distance Learning*, 13(1), 56-71.
- Blondy, L.C. (2007, Summer). Evaluation and application of andragogical assumptions to the adult online learning environment. *Journal of Interactive Online Learning*, 6(2), 116-130.
- Bloom, B.S. (1956). *Taxonomy of educational objectives*, B.S. Bloom (Ed.) Susan Fauer Company. Retrieved from <http://www.odu.edu/educ>. [Google Scholar](#)
- Carrier, S. I., & Moulds, L. D. (2003). Pedagogy, andragogy, and cybergogy: exploring best practice paradigm for online teaching and learning. Sloan-C 9th International Conference on Asynchronous Learning Networks (ALN), Orlando, USA.
- Delahaye, B. I., Limerick, D.C. & Hearn, G. (1994). The relationship between andragogical and pedagogical orientations and the implications for adult learning. *Adult Education Quarterly*, 33 (4), 187-200. Retrieved at http://www.lindenwood.edu/education/andragogy/andragogy/2011/Delahaye_1994.pdf
- Gerstein, J. (2013, May 2013). Education 3.0 and the pedagogy, andragogy and heutagogy of mobile learning. Retrieved from <http://usergeneratededucation.wordpress.com>
- Hase, S., & Kenyon, C. (2000). From andragogy to heutagogy. *Ultibase Articles*, 5(3), 1-10.
- Holmes, G. & Abington-Cooper, M. (2000). Pedagogy vs. andragogy: A false dichotomy. *Journal of Technology Studies*, 26, 2. Retrieved at

<http://scholar.lib.vt.edu/ejournals/JOTS/Summer-Fall-2000/holmes.html>

Knowles, M. (1973). *The adult learner: A neglected species*. Houston: Gulf.

Knowles, M. S. (1970). *The modern practice of adult education* (Vol. 41). New York: New York Association Press.

Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy*

Krathwohl, D.R., Bloom, B.S., Masia, B.B.

(1964). *Taxonomy of educational objectives: Handbook II: Affective domain*. New York: David McKay Co. Retrieved from

<http://acu.edu/academics>.

Merriam Webster Online Dictionary. (2020).

Retrieved from <http://www.merriamwebster.com>

Smith, R. O. (2012). Fostering transformative learning online. *The Handbook of Transformative Learning: Theory, Research and Practice*, 408-422.

to andragogy. Chicago: Follett.

Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult learning*.

New York: Jossey-Bass.

Wang, M. J. (2008). Cybergogy for engaged learning. *Journal of Open and Distance Education in China*, 14(2), p. 14-22.