

E-pedagogy: a model for online education

Nataliya Serdyukova
National University

Peter Serdyukov
National University

Abstract: Quality of learning outcomes remains, as always, the primary goal of higher education. Traditionally, quality of students' learning is determined by three major factors: the content, effective teaching, and rigorous assessment. Among the many impacts contributing to the quality of college education, the teaching is the main one, being defined primarily by the instructor's professional qualifications. College instructor's professionalism is shaped not only by subject matter expertise but also by pedagogic skills which help deliver the content efficiently and engage students in effective learning. Pedagogic skills are developed through a process of instructor preparation, continuous professional development and practice. The major component affecting the quality of teaching and learning is, nevertheless, the science of education, i.e. pedagogy. With the rapid and massive integration of informational technologies in teaching and learning it has become clear that one of the major challenges of online education is not the technology itself but the lack of sound pedagogy as the foundation of online learning. This paper offers a model of online pedagogy for higher education.

Keywords: Online education, pedagogy, teaching and learning, student-centered approach, convenience.

Introduction

Teaching and learning require pedagogic foundation, a set of rules and procedures that help to make the developmental process effective. Many great minds contributed to the development of pedagogy as a science, among them Johann Heinrich Pestalozzi, John Amos Comenius, John Dewey, Lev Vygotsky, Jean Piaget, Jerome Brunner, and many others. According to Brunner (1999), pedagogy is a science that makes educators aware of different teaching and learning standards and strategies which guide what, to whom, how and when to teach. So, when teaching, instructors select the content and strategies that best fit a specific classroom situation based on this science and their classroom experiences. Online education does not yet have its own pedagogy.

Barriers to Quality Online Education

With the advent of online education about two decades ago it has been expected there would be constructed a comprehensive pedagogy leading the practice. Yet, to this day we see that technology drives the learning, while pedagogy is lagging behind and at best attempting to describe minor, discrete teaching experiences, whereas what is needed is a holistic view of the field. Paraphrasing Neil Postman, one should caution against surrendering education to technology (Postman, 1993). To make things worse, online education is often classified by the technologies used, not pedagogy (Anderson & Dron, 2011). As Mark Nickols states, in online education “an overall educational framework is still missing” (2011, p. 322). He continues, “the term ‘education’ is generally missing from e-learning conversation”. True, the focus is on the generic term ‘learning’, which makes the procedure lacking vital features of what education used to commonly provide. Despite twenty years of online education and numerous publications on its various aspects, there have been only a few attempts to create a solid theory of online education (Nichols, 2011; Anderson & Dron, 2011; Siemens, 2005). Why so? There are, in the authors’ opinion, three reasons for that:

1. With the growing demand for online programs and severe competition, colleges are embracing new educational format and technologies with such enthusiasm that they have no resources left to sustain fundamental pedagogic research and provide adequate online instructor preparation.
2. College educators turned online instructors, under the stress of mastering ever evolving technological tools, find no time or capacity to theorize on online practices and put together a comprehensive online pedagogy.
3. The majority of the online educators, besides, are either teaching practitioners or experts in the content area without teaching expertise.

What is needed are a few educational theoreticians; unfortunately, those belong to the traditional pedagogy. Emerging online pedagogy must have its own theoreticians and has to move from the description of minute applications and technicalities to an all-embracing theory of contemporary web-based education.

E-learning, incidentally, is only a part of educational theory and practice, so it cannot brand the whole process of college education. Online educators have to overcome a narrow view of the new field. There are also many other inconsistencies in the current approach to the online education. For instance, online discourse not only uses the terms ‘learning’ instead of ‘education’, but also ‘delivery’ instead of ‘instruction’, ‘facilitation’ instead of ‘teaching’;

students do not read but ‘browse’ and ‘skim’ instructional materials; they do not study but share information and select answers in lieu of solving problems; post or text rather than communicate and relate. Students try to go past online classes fast and easy (“fly” over the course) (Author 1); do they have time to stop and think deep in the online learning race? As a result, they may not have a chance to construct holistic knowledge, nor learn to socialize and collaborate.

Online education quality, besides the lack of its own pedagogy, is also affected by the convenience factor (Bocchi, Eastman, and Swift, 2004; Author 2, Mupinga, Nora, & Yaw, 2006), which is the primary reason of general fascination with online education. However appealing for students, however, convenience can be detrimental to academic rigor and may affect students’ views on learning (ibid). Experts notice, for instance, handwriting is being sacrificed for the sake of technology's convenience (Casey, 2013). Have not people reduced visiting with friends because of smartphones, Skype, emails, and texting? Convenience is related to the principle of least effort (Zipf, 1949), which brings humans to employ economies of effort in many processes of mental tasks, including learning. Research (Reichle, Carpenter, Just, 2000) demonstrates human brains seek to minimize the mental workload by choosing the strategy that makes less work for the brain. According to Liu, Yang (2004), students show their strong preference for easy and fast information retrieval. Convenience sometimes leads to discoveries; more often than not, nevertheless, it may bring about lack of responsibility, slack performance and intellectual deprivation. Online learning based on the convenience model develops not only innovative methods of learning but also impairs students’ attitudes towards learning. They not only avoid attendance of the college classrooms that stand half-empty today, but also try to evade participation in the activities intended to bridge the detachment between college, instructors and online students and enhance their learning in online environment if they require more engagement, time and effort, e.g., synchronous classes, chats and live telecommunication sessions. In addition, instructor’s facilitation of learning makes cognitive tasks easier, and students expect all-around support and lower rigor. Mobile learning (m-learning), which is a recent modification of online education, already obliges instructor to be on call 24/7, as it “provides greater flexibility for students to be examined or interact at any time and in any place” (Sampson, Isaias, Ifenthaler, Spector, 2013, 72), which definitely enhances convenience of learning.

The factor of convenience in online learning is interrelated with the student-centered approach developed by John Dewey, Jean Piaget, Lev Vygotsky, and Carl Rogers, which is adopted by online education. The student is now the central figure of the educational process, not the instructor. The teaching practice (facilitation) serves not so much to educate as to support the student in his or her independent learning. Student-centeredness as a pedagogic principle attractive in its democratic intent, nonetheless, is also deceptive: only very few able, highly motivated, dedicated, autonomous learners know what they want to learn and how to study. It is publicly known the majority of US school graduates failed by general education (according to some estimates, up to 75%) are not ready for college (College preparedness, 2012), which indicates, among other things, to the fact that they are incapable of independent study. Our own research of independent learning perceptions of online college students (Author 3) demonstrates that over 70% of surveyed students prefer organized classrooms where the instructor will teach (and often, push) them to learn to autonomous learning. They state the need for structure, guidance and control; they, therefore, lack confidence in their ability to learn independently. Student-centered approach, however, though so humanistic, can work only for the autonomous learners, who, regrettably, are few in our classrooms. Unprepared, unskilled, and instructor-

dependent learners in student-centered online environment are at risk of failure, if not in the grades then in basic competencies. It looks like contemporary students need to have a better basic preparation before they enroll in college classes and more personal responsibility for their own learning.

Online Instructor's Challenges

Success of online education depends not only on the unlimited resources of the internet and effective technology to deliver the content, but also on how students learn in this online environment and how instructors support their learning (Herrington, Bunker, 2002). In an online class college instructors are no longer required to write and deliver lectures, which previously was a major aspect of effective professorial competence. Everything in an online class, including the content, has been developed by the course designers and embedded into the course. Interactions with students are limited in format, time and engagement, and feedback is commonly delayed. Therefore, the online instructor's main function nowadays is to facilitate students' learning, i.e. maintain the procedure – the instructor stays on the side of the process and observes students' struggling with the content and assignments. A good instructor will intervene and help; a bad instructor will either ignore or suggest that the student tackles the problem on her own, using clearly stated tasks, assignments and course materials. It is usually not the online course or environment that is at fault, however, but incompetent instructors. This incompetence, conversely, is often not their culpability: they have never been prepared to teach online, nor ever studied pedagogy. Equally, it is not the technology we should blame for students' failures, but the users' inability to apply it effectively to pedagogic tasks.

Online courses contain the content in a variety of modalities, such as text, audio, visuals, videos, and multimedia, which are integrated in the course shell. Students have to interact with this content and construct their own knowledge. The content, however, is always only a part of the learning. The “how” in learning, which is defined by the pedagogy and instructional methodology, is no less important for success than the “what”, which is content knowledge. Success in learning, as stated by Association of Learning Technologies (2010) is “process led rather than content or technology led”. Thus, critical for the success of learning is the instructor as the central figure in the learning process, their qualifications and dispositions that are defined by the pedagogy. There is, however, little instructor's engagement with online students, minimal cognitive, educational or cultural impact, and practically no role modeling in the student-centered online classes (Author 4). The cadres of online instructors, while focusing on the embedded course content, often do not use pedagogic skills or simply lack them because they have never mastered online pedagogy. Others, especially those who come to online classes from traditional classroom-based institutions are having hard time transferring their teaching skills to the new, virtual classrooms. Those who come to teaching online without previous classroom experiences, e.g., from business, industry, civic administration, or other fields are not familiar with pedagogic principles of education and are struggling with challenges of online teaching. Quite a few experienced online instructors, following the principle of least effort mentioned above and enjoying the factor of convenience as much as students, have developed instructional techniques suitable for the Ford's conveyor: when they teach the same course continuously, they create a database of instructional materials, visuals, assignments, projects, tests, and even comments or discussion posts, which they peruse from class to class. This is common among many instructors, but more so among the growing category of part-time, adjunct instructors, who

have a very superficial connection to the departments and less responsibility for the outcomes. The philosophy of teaching has changed.

Worse than even the lack of pedagogical foundation, many educators now sincerely believe that technology will “fix” all the problems they encounter in the classrooms, either brick and mortar, or virtual. So fewer instructors think their pedagogic mastery is needed as technology will solve all problems anyway. This is called ‘technocentrism’ (Pappert, 1990), which, according to Nickols (2011), is very common in higher education and e-learning discussions. The overestimation of the power of technology leads to further underestimation of the need for sound pedagogy and instructor quality preparation.

Online instructors must be specially prepared by universities. Before allowing a new instructor to teach online, they must be educated in online pedagogy and instructional methodology. Colleges do provide some professional development, however it is commonly haphazard and limited – there is no solid and systemic pedagogy, and no accepted rigorous protocol for online instructor assessment, follow up, support and guidance, as well as preparation; objective feedback is often missing. Administrative and cross visitations by the peers which contribute to an instructor’s professional growth are rare. Such a culture hinders instructor’s self-development.

E-pedagogy - Pedagogy for Formal Online Higher Education

Online educators lack comprehensive, research-based, and consistent theory of online education without which there is no quality teaching and learning. Such a theory will provide a conceptual base of online education, along with setting the expectations for pedagogically sound and thus effective designing, planning and implementing both teaching and learning; help understand online students and their learning process; provide methodological directions and advice; prepare instructors for effective teaching, and help maintain their professionalism.

As the term ‘e-learning’ has been established to denote online learning, it would be logical to call the emerging pedagogy of online education ‘e-pedagogy’. The current authors argue that pedagogy being a generic term for broad pedagogic science integrates many parts, such as teaching, learning, personal development, instructional methods, etc. Therefore the authors believe it would be incorrect to call e-pedagogy the pedagogy of e-learning, as was suggested in the article under such title (Mehanna, 2004) - the latter is only a part of the broad, all-embracing e-pedagogy.

What content areas should online education pedagogy cover? Like traditional pedagogy, it has to describe current educational theories and methodologies; identify basic principles of online education based on research and understanding of the traditional education together with current trends and future developments; clarify educators’ roles and functions; focus on the purpose of education, dispositions and preparedness for the learning; consider the processes of learner personal, cognitive and social development. E-pedagogy is a comprehensive science which integrates all issues related to online education, starting with the theoretical foundations, and embracing higher education institutions, pedagogic systems, personal and professional development, principles of teaching and learning, instructional approaches and methods, knowledge construction in online learning, student and instructor’s characteristics, educational technologies, course design and process planning.

Based on the analysis of various pedagogies the authors built a model of e-pedagogy which includes the following topics:

1. Foundations of Online Pedagogy
 - 1.1 Education as a humanistic and professional value
 - 1.2 Functions of education
 - 1.3 Educational systems
 - 1.4 Pedagogy as a science
 - 1.5 Education as a social and pedagogic process
 - 1.6 Links between pedagogy and other sciences
 - 1.7 Constructivism
 - 1.8 Connectivism
 - 1.9 Specifics of online pedagogy and its place in general pedagogy
 - 1.10 Current trends and future developments in education
2. Higher education online
 - 2.1 Goals
 - 2.2 Types
 - 2.3 Structures
 - 2.4 Formats
3. Human development as a pedagogic problem
 - 3.1 Development of a person and a specialist as a pedagogic problem
 - 3.2 Learning as a developmental process: cognitive, emotional, social and professional development
 - 3.3 Students' characteristics, abilities and learning styles (adult vs. traditional student; students in online vs. classroom environments)
 - 3.4 Students' dispositions
 - 3.5 Motivation
 - 3.6 Socialization in education
 - 3.7 Self-development in the process of learning. Learner autonomy and self-efficacy
4. Principles of teaching and learning
 - 4.1 Contemporary pedagogic approaches
 - 4.2 Content of education
 - 4.3 Knowledge construction
 - 4.4 Collaboration and cooperation in teaching and learning
 - 4.5 Educational and professional standards and expectations
 - 4.6 Application of new knowledge and skills
5. Methods and tools
 - 5.1 Instructional approaches
 - 5.2 Methods of education
 - 5.3 Content presentation
 - 5.4 Inquiry and problem solving
 - 5.5 Interaction and socialization in learning
 - 5.6 Teaching and learning tools
6. Educational technologies
 - 6.1 Technical and educational characteristics
 - 6.2 Online learning technologies
 - 6.3 Social networking tools
 - 6.4 Mobile learning tools
7. Methodology of teaching and learning

- 7.1 Instructor and student in the educational process
- 7.2 The logics and structure of the process
- 7.3 Types of learning
- 7.4 Student activities
- 7.5 Quality control in education
- 8. Online instructor
 - 8.1 Professional qualifications
 - 8.2 Professional culture
 - 8.3 Preparation and continuous professional development
 - 8.4 Pedagogic activities in an online environment
 - 8.5 Instructor's roles and functions
 - 8.6 Teaching style
- 9. Designing online education
 - 9.1 Course design
 - 9.2 Course structure
 - 9.3 Instructor activities
 - 9.4 Student activities
 - 9.5 Course materials: modalities and formats
 - 9.6 Course tools and navigation
 - 9.7 Student support
- 10. Planning and time management in teaching and learning
 - 10.1 Course planning
 - 10.2 Time management

Actually, this pedagogy is intended for the online college educators, while students, especially those who undertake self-education using MOOC's or free online resources, or engage in informal web-based educational configurations, need a special manual, e.g., *Online Learning for Fools*.

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