# Second Wave of Development: Systems Approach to Education (1960's …)

| Forces dominant in the larger context that drove development of DE<br><br>*Brian Lehman* | Theories/Ways of Understanding<br><br>*Tracey Chambers* | Institutional & Operational Development (Operating Systems)<br><br>*LaShenda Soule`* | Teaching/ Learning Methodologies (role of teacher/ role of learner<br><br>*John McCoy* | Predominant Technologies<br><br>*John McCoy* | Key Authors.<br><br>*Melinda Parsons* |
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| Peters (2010) talks about the Development of Open Universities based on the UK model and the development of the "examining university." This allowed students to study material on their own at any time or place and go to the university to take an exam to prove that they know the material.  Being able to study material in this manner is a major principles of distance education.<br><br>"A major force driving the establishment of the open universities was an ideological bent toward higher | During the second wave of Distance Education (DE), there was influx of theories published by well-known scholars. The changes in DE were significant.  Institutions that focused solely on DE, like single mode institutions and open universities were becoming available. Scholars dedicated journals to the field of DE, allowing discussion to take place based on their research.<br><br>**Elements Theory**<br>Keegan (Moore & Kearsley, 2012) stated in 1980 in an issue of the Australian journal *Distance Education* | The Institutional & Operational Development within distance education evolved greatly within it's technologies. However, "a key factor in running a successful distance operation within a university has been the budget allocation process" (Shale, 2011, p. 94).<br><br>"In the late 1960's...through the 1970's, the ubiquity of radio and television strongly influenced the next major organizational development in distance education" (Shale, 2011, p. 95). | In the last 50 years Distance Education has sought to bridge the gap between traditional face-to-face instruction and previous incarnations of DE using the latest technological developments.  As communicative technology improves new theories and methodology about how the DE teacher/instructor should interact with students in these new mediums have ermerged.  In addition, distance education scholars have debated the best methodological approaches in regards to engaging the students, especially as | Perhaps the single greatest technological development within the wider field of education has been the computer and all subsequent technological developments as a result.  Distance Education has been profoundly shaped by the increasing power, flexibility, and affordability of computer based technologies.<br><br>"Increasing recognition of the potential of computer mediated communications, computer supported collaborative work, computer learning environments, and | **Tony Bates**<br>Bates joined the British Open University in 1969. The main reason why Bates was hired was to do research for the University to find other models of Distance Education (DE). He found that DE benefited adults that wanted to improve themselves by studying and working hard.<br><br>**Bates, T. (2011): Second Wave of DE and History**.<br><br>**Malcolm Knowles**<br>Knowles wrote a book called *The Modern Practice of Adult Education.* Malcolm Knowles researched |

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| education at a time when people should have an opportunity to participate in it and thus improve their lots in life." (Shale, 2010, p. 96).<br><br>Another major force driving development was "The technology used to deliver and support learning" (Shale, 2010, p. 97). Radio and television allowed students with different learning styles to be successful distance education students.<br><br>Institutions coming together to offer courses that everyone could use at a small price. This helped cut down of the cost of producing materials and allowed for specialization. (Miller, 2010). | defined the following elements as a part of DE, "1) separation of educator and student; 2) influenced by an educational organization through the preparation of learning materials; 3) technical media; 4) provision of two-way communication; 5) participation in the development of education; and 6) occasional roundtables. The following six elements were developed and defined by scholars Holmberg, Moore, Peters and the July 1971 Law of France." (Moore & Kearsley, 2012)<br><br>**Constructivism Theory**<br>Newly implemented forms of technology during the second wave reinforced elements related to the instructional design. This allowed constructivism the ability to gain position | Media departments were also a huge part of operating systems in the 1970's and 1980's.<br><br>"the programs were often imaginative in terms of exploiting the visual and audio aspects of television...in the area of mathematics were they created simulations and modeling to explain the concepts behind the mathematical formulae" (Bates, 2011).<br><br>Bates (2011), felt that "the idea of integrated, explicitly designed materials based on sound pedagogic principles...led to the success of the Open University".<br><br>"Individual telephone conversations between teachers and students are common in the UK's Open University", (Peters, 2004, p.63).<br><br>Within learner support, "learners worked with resource | DE becomes increasingly geared towards adults as potential students.<br><br>Reflecting these trends, some school districts (such as Howard County, Maryland) have begun to experiment with "blended" courses in their comprehensive summer school program. These courses are conducted both face to face and in the traditional distance education style.<br><br>The blended courses both recognize the potential of DE within the traditional classroom and perhaps reveal reservations still from secondary school districts about the full merit and impact of DE on their curriculum. Regardless, the trend is evident that the emergence of DE on such a wide scale in the last 50 years is beginning to gain momentum even within secondary curriculum. | computer based cognitive tools, have encouraged innovative approaches to the design of distance learning." (Jonassen, 1995, p. 15)<br><br>"Interactive teleconferencing: the delivery of credit courses and noncredit courses and workshops as live, interactive media events through a variety of telecommunication services, ranging from the telephone to the internet..." (Cleveland-Innes and Garrison, 2010, p. 35).<br><br>Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Bannan Haag, B. (1995). Constructivism and computer-mediated communication in distance education. *The American Journal of Distance Education, 9*(2), 7-26. | meaning theories about the characteristics of adults learning and different element of the Andragogy approach.<br><br>**Bullen, M. (1995). Andragogy and university distance education.**<br><br>**Lord Crowther**<br>First Chancellor of the Open University stated on 1969, "We are open 'as to people'; 'as to places'; 'as to methods'; and finally' to ideas" (Peters, 2010, p. 62).<br><br>**Alan Tait**<br>(1989-1998) Editor of the Journal Open Learning. (2007-1010) President of the European Distance Education Network (EDEN) |

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| | in DE.  The following four elements have been encompassed of the constructivism theory, 1) Active and authentic learning; 2) learning-by-doing (visual); 3) Scaffolded learning; and 4) Collaboration. (Harasim, 2011).<br><br>**Guided Didactic Conversation Theory**<br>In 1981, Holmberg theorized that teaching should be done in conversation or "guided didactic."  Empathy plays a significant part in the teaching/learning process in DE; thus using the conversation instead of the scholarly approach would aid an educator in displaying empathy through instruction, promoting motivation. (Holmberg, 2004).<br><br>**Andragogy Theory**<br>In 1970, Malcom Knowles, (Knowles, Swanson & Holton, 2011), developed the theory of andragogy in education for adults. | materials...integrating their new knowledge with their own understandings and their lifestyles." (Tait, 2003,  p.57)<br><br>"From 1971 to 1997 all undergraduate students...had access to a personal tutor-counsellor who offered support and advice throughout their career." (Haughey, 2010, p.58) | **Constructivism**<br><br>"Constructivist environments and tools can replace the deterministic, teacher controlled model of distance instruction···" (Jonassen, 1995, p.15).<br><br>**Andragogy**<br><br>Andragogy is the philosophical approach to educating adults, often times seen as the opposite of pedagogy, or the philosophical approach to educating children.  As Distance Education develops greater acceptance as a method for continuing education into adulthood, the field of andragogy has emerged as an important field of study in education.<br><br>"...suggest that applying andragogy to distance education course design will allow adults to make more decisions about their learning and encourage them to become self-directed and independent | | |

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| | Advocating for choice and the flexibility, Knowles believed that the process in teaching adults and adult learners should be far different than teaching children, emphasizing that adults are self-directed and expected to take responsibility for decisions. The following six elements are associated in the holistic and learner-centered approach, 1) Need to know; 2) Self-concept of the learner; 3) learner experience; 4) Willingness to learn; 5) Orientation to learning; and 6) Motivated to learn. (Knowles, Swanson, & Holton, 2011).<br><br>**Industrialized Education Theory**<br>In 1967, Peters (2010) theorized that comparing the techniques of DE and the industrial process were similar, systematically, and in the workplace, | | learners." (Bullen, 1995, p. 2).<br><br>Bullen, M. (1995, June). Andragogy and university distance education. Paper presented to the *17th conference on the International Council for Open and Distance Education*, Birmingham, UK.<br><br>Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Bannan Haag, B. (1995). Constructivism and computer-mediated communication in distance education. *The American Journal of Distance Education, 9*(2), 7-26. | | |

| | producing mass materials, automation, quality control, and using modernized technology through communication. (Peters, 2010).<br><br>**Transactional Distance: Dialogue, Structure, and Learner Autonomy Theory**<br>Moore & Kearsley (2012) states, "The theory of transactional distance suggests that structure and dialogue are critical factors that are critical to the learner autonomy." Moore & Kearsley (2012), further states that there are different levels of dialogue; thus in transactional distance there are lower levels of dialogue opposed to there being more dialogue resulting in higher levels of transactional distance. (Moore & Kearsley, 2012). | | | |
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References

Bates, A. W. (2011, November). *The second wave of distance education and history of the Open University United Kingdom. [Online Video}*

Bullen, M. (1995, June).  Andragogy and university distance education. Paper presented to the *17th conference on the   International Council for Open and Distance Education*, Birmingham, UK.

Cleveland-Innes, M.F., & Garrison, D.R. (2010). *An introduction to distance education: Understanding teaching and learning in a new era*. (pp. 91-107). New York & London: Routledge.

Holmberg, B. (2004). The empathy approach to distance education. [Lecture video]

Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Bannan Haag, B. (1995). Constructivism and computer-mediated communication in distance education. *The American Journal of Distance Education, 9*(2), 7-26.

Knowles, M.S., Swanson, M.A., & Holton, E.F. (2011).  The adult learner: The definitive classic in adult education and human resource development (7th ed.). New York:Taylor & Francis.

Miller, G. E. (2010). Organization and technology of distance education. In M. F. Cleveland-Innes & D. R. Garrison (Eds.), *An introduction to distance education: Understanding teaching and learning in a new era* (pp. 26-45). New York & London: Routledge

Moore, M.G., Kearsley, G. (2012). Distance Education: A systems view of online learning. New York: Cengage Learning.

Peters, O. (2010). The greatest achievement of industrialized education: Open universities. In O. Peters, *Distance education in transition: Developments and issues* (5th edition) (pp. 57-81). Oldenburg, Germany:

Peters, O. (2001). *Learning and teaching in distance education: Analyses and interpretations from an international perspective.* London: Kogan Page.

Shale, D. (2010). Beyond boundaries: The evolution of distance education. In M. F. Cleveland-Innes & D. R. Garrison (Eds.), *An introduction to distance education: Understanding teaching and learning in a new era* (pp. 91-107). New York & London: Routledge.

Wiseman, K. L. (2013). Learning Theory and Online Technologies - By Linda Harasim. *Teaching Theology & Religion*, *16*e13-e14. doi:10.1111/teth.12071

**First Wave of Development: Correspondence/Independent Study-    1840~**

| Forces dominant in the larger context that drove development of DE | Theories/Ways of Understanding | Institutional & Operational Development (Operating Systems) | Teaching/ Learning Methodologies (role of teacher/ role of learner | Predominant Technologies | Key Authors. |
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| The Industrial Era was one of the forces that drove development of DE.<br><br>The University of London allowed people who were not students to take exams - "The University of London ··· functioned as an examining institute which does not require that their examinees are students of the university" (Holmberg, 2005, p. 14).<br><br>Correspondence education allowed more people to continue their education"..correspondence education became something of a godsend to many who··· wanted to improve their | According to Peters (1967), the impulse for the interpretation of distance education (DE) as an industrialized form of teaching and learning, came thirty years ago.<br>**Pre-Industrial Era**<br>Story books and traditional text-books were published as a way to exchange ideas.<br><br>**Industrial Era (1750-1850)**<br>In 1750, the Industrial Revolution created a cultural & economic shift resulting in the development of mass printing.<br><br>Publishing companies were established to provide various educational tools for | The development of distance education took place over 100 years ago. The operational development of distance education has evolved, first with the stroke of a pen on paper, through delivered correspondence and personal testing, to developing a more real-time teacher/learning environment at a distance. Distance education was eventually a part of institutions making education available to those with conflicting schedules.<br><br>According to Peters (2004), the foundation of Distance Education dates back to the | When it comes to distance education there are many roles of the educator and the student. The educator (professor/trainer) needs to be aware of all the students needs and to make sure that all needs are met. The educator should also incorporate different learning styles to keep the the students engaged. The educator must also be trained and fully aware on how assistive technology works so the educator can teach the students effectively.<br><br>The student is responsible for their education and for making sure they complete all work/readings that are | There are many predominant technologies in distance education. In the beginning, distance education used the postal service as a main source. Professors were able to mail assignments and graded assignments<br><br>In *Teaching and Learning in Distance Education before the Digital Age*, Haughey (2010) describes many examples of students receiving lessons via mail and returning them when they were completed. | The first wave of Distance Education (DE) consisted of scholars who researched and studied the origins of independent and correspondence and how they foresaw how it would apply today.<br><br>**Charles Wedemeyer**<br>According to D.R. Garrison and M.F. Cleveland-Innes (2010), Charles Wedemeyer was a pioneer when it came to theoretical development of distance education. Charles Wedemeyer believed that distance education could help socially disadvantaged individuals (Garrison & Cleveland-Innes, 2010).<br><br>**Borje Holmberg** |

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| education and thus their chances for promotion in work and society" (Holmberg, 2005, p.19).<br><br>WWII prompted France to open correspondence schools - "In France a state correspondence school was created in 1939 to cater for the education of children (c)shose schools because of the war could not stay open" (Holmberg, 2005, p. 20).<br><br>In the aftermath of WWII, governments recognized the need for education and adults wanted it: "..Post war governments recognized that post-secondary education was essential for their economic growth and the development of their citizens."  (Haughey, 2010, p.49).<br><br>"growing numbers of adults desired post | the traditional style of education.<br><br>**Victorian Era (1837-1901)**<br><br> "The Victorian Era brought industrialization & change to society along with public communication.  In 1840, The Penny Post was created which was the first organized mailing service established in England. Isaac Pitman, the first to recognize the communication potential and establish one of the 1st correspondence schools."  (Visser, 2005)<br><br>**Concept**<br>Conceptual confusion has been created with the advent of new terminology (virtual, distributed and distance education), new technologies, new program demands, new audiences, and new commercially competitive providers. (Garrison, 2000) | Apostle Paul, who wrote his famous epistles in order to teach Christian Communities.<br><br>**The Industrial Era-**<br><br>"The emergence of correspondence education was a direct result of developments in communication technology; specifically the mail system and the ability to distribute course materials economically." (Garrison & Cleveland-Innes, 2010, p.14).<br><br>"Wedemeyer was a pioneer in the theoretical development of distance education...He focused on the characteristic of **independent study** that provided access to socially disadvantaged individuals." (Garrison & Cleveland-Innes, 2010, p.14) | assigned. Students are also responsible for learning the technologies that are being used and to ask questions if the students are having problems. | | Holmberg (2005) founded theories in the field of DE by 1840 and had many other contributions during the 18th century<br><br>**Desmond Keegan**<br>Dr. Keegan was one of the few who interpreted research and understand the field of distance education (Garrison & Cleveland-Innes, 2010). Keegan was also a pioneer researcher for distance education. He also contributed to the changes of distance education of today.<br><br>**Otto Peters**<br>Otto Peter believes that distance education as a special purposes and has a lot of different aspects that are not present in traditional face-to-face classrooms (Peters, 2011). According to Peters (2007), distance education allows students become self motivated with his/her own learning. |

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| secondary schooling." (Haughey, 2010, p.49).<br><br>Rural Free Delivery (RDF). | 1960, DE was viewed as disregarded by pedagogics and in order to grasp the concept of DE, it was required to look at the structural differences between "traditional" and the effects of online learning. (Peters, 1997) | "The adoption of **audio-conferencing** technologies in the 1980's raised questions about the trade-off of independence and interactions" (Daniel & Marquis) (1979), as cited by Garrison & Cleveland-Innes (2010) p.16<br><br>"The first electronic technology adopted by distance education was **radio** in the early part of the 20th century." (Garrison & Cleveland-Innes, 2010 , p.17).<br><br>"The **open university** movement began in the 1960's when Great Britain established the first open University…"(Cleveland -Innes & Garrison, 2010 p.33).<br><br>"The Open University reflected a commitment to creating a fully **autonomous** institution totally organized around the needs of nontraditional students." (Garrison & | | | |

| | | Cleveland-Innes, 2010, p.33)

"Certainly online communication and discussions have been adopted by distance education institutions." (Garrison & Cleveland-Innes, 2010 p.17)

**Post-Industrial Era-**

"A new era of distance education appears to be emerging that has capitalized on the **Internet** and new communications technology." (Garrison & Cleveland-Innes 2010 p.18)

"The **correspondence model** has certainly proved its value in practice...it contributed to the success of commercial distance-teaching schools and colleges." (Peters, 2001, p. 19)

"A further step towards reducing the distance between teachers and students was taken | | | |

| | | when people started to interpret distance education as the **simulation of a conversation** between teacher and student." (Peters, 2001, p. 20) | | | |
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## Wave 1 References:

Cleveland-Innes, M.F., & Garrison, D.R. (2010). *An introduction to distance education: Understanding teaching and learning in a new era*. New York, NY: Routledge.

Haughey, M. (2010). Teaching and learning in distance education before the digital age. In M. F. Cleveland-Innes & D. R. Garrison, *An introduction to distance education: Understanding teaching and learning in a new era* (pp. 46-66). New York and London: Routledge.

Holmberg, B. (2005). *The evolution, principles, and practice of distance education* (pp. 13-36). Oldenburg, Germany: BIS-Verlag der Carl von Ossietzky Universität Oldenburg.

Garrison, R. (2000). Theoretical Challenges for Distance Education in the 21st Century: A shift from structural to transactional issues.

Otto, P. (1997). Industrialized Teaching and Learning

Peters, O. (2001). *Learning and teaching in distance education: Analyses and interpretations from an international perspective.* London: Kogan Page.

Visser, Y.L. (2005). Trends & Issues in Distance Education: International Perspectives

Wedemeyer, C.A. (1971). Independent Study