DISTANCE EDUCATION (DE) WAVES

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DIMENSIONS

First Wave (w1)

Correspondence Study

This era focusses on the independent student, undertaking correspondence education. Although the focus of this era was on printed materials, transportation systems in the industrial era played a pivotal role in distance education (Peters, 2004, p. 13). Nonetheless, many elements of this form of correspondence education still exist in some distance education models and are practiced by some distance education institutions (Anderson, 2009, p. 112).

Second Wave (w2)

Systems Approach

This era highlights the complex processes involved in the distance education system. Moore and Kearseley (2012, p. 12) identify the different elements of the DE system, such as technology, media, teaching institutions, course designers, instructors, students, various contextual elements, etcetera. Each element is a vital subset of the larger system that ensures the success of the system as a whole.

Third Wave (w3)

Internet / Web-based

Although online learning has dominated this era of distance education, the full potential of Internet and Web-based technologies have not been realized (Garrison, 2009, p. 111). Bates, (2017) argues that a lot of online learning and teaching was asynchronous initially; technological advances have made synchronous online education possible. However, the elements of effective synchronous communication has to be integrated within course designs.

Fourth Wave (w4)

Current Trends

Current trends in the distance education spectrum indicate infinite possibilities for education, more so with the potential that new and emerging media provide (Anderson, 2009, p. 111).

New theories, new roles, new applications of technology, new educational models have also been envisaged as students view education differently (Garrison, 2009, p. 112)

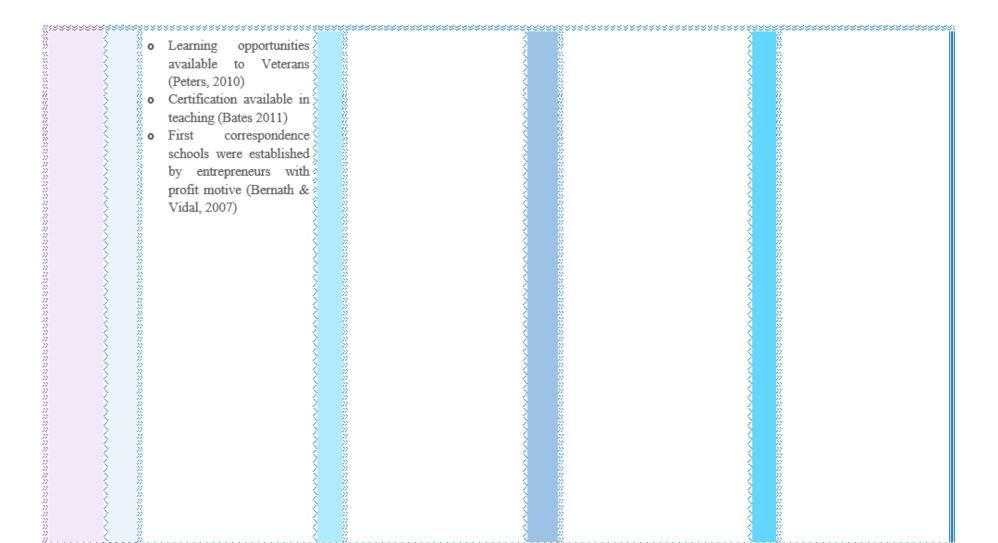| 1) Larger Context (economics/ politics/ societal values and pressures/ government policies/ technological advances)	First Wave (W1)	Second Wave (W2)	Third Wave (W3)	Fourth Wave (W4)
	o Non-contiguous communication (Holmberg, 2005). o Industrialization of artisanal work (Peters, 2004, p. 14). o Existing educational structures unprepared for ramifications of industrialization and urbanization (Peters, 2004, p.14). o Migration from agricultural to industrial centers (Peters, 2004, p. 14). o Increased desire for upward economic and social mobility (Peters, 2004, p. 14). o Increased commercial competition (Peters, 2004, p. 14). o At the beginning of the 20th century governments became interested in expanding educational opportunities to more people (Peters, 2010)	o Commercialization of DE - increased numbers of students (Peters, 2004) o Inclusion of dispersed and minority students (Haughey, 2010) o Humanitarian elements (Peters, 2011) o Self-improvement through distance education (Holmberg, 2005) o Emergence of open universities (Bates, 2011; Anderson & Simpson, 2015). o Grounded on systems science, method, and technology (Moore and Kearsley, 2012). o Wave sees the industrialization of DE (Bates, 2011).	o Digital Education and virtual Libraries (Amirree & Khabbazan, 2009) o Widening access for mature adults to university degrees (Curran, 1997) o Open universities and growing demand for DE (Peters, 2004) o A reaction to the elitist university system (Haughey, 2010) o Growing adult student population (Peters, 2004) o Promotion of diversity in DE for both students and organizations due to greater access and mass information production (Peters, 2010, p. 48). o Blended learning becomes a major source of education and a route to greater social inclusion for adult learners (DePryck, Nuyts & Van Laer, 2012).	o Lifelong learning as a human right (Blessinger and Anchan, 2015) o DE as a catalyst in social development (Sharma & Mahapatra, 2007) o "Technology has reorganized how we live, how we communicate, and how we learn" (Siemens, 2004)

- o Learning opportunities available to Veterans (Peters, 2010)
- o Certification available in teaching (Bates 2011)
- o First correspondence schools were established by entrepreneurs with profit motive (Bernath & Vidal, 2007)

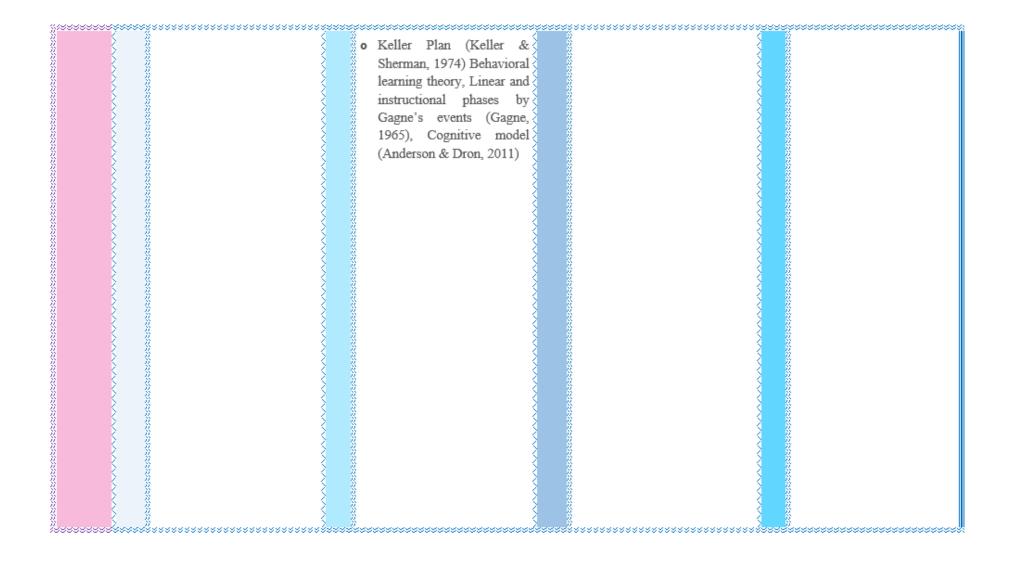| 2) Theories / Ways of Understanding	First Wave (W1)	Second Wave (W2)	Third Wave (W3)	Fourth Wave (W4)
	o Negligible theoretical development in the pioneers era, according to (Holmberg, 2005) o Separation between instructors and students (Gatewood, 2014; Holmberg, 2005) o Emergence of behaviorism and cognitivism o DE is defined and understood in two ways as being facilitated by "one way traffic pre-produced learning materials sent from supporting organization to student, two way traffic, i.e. interaction between students and the supporting organization, student-to-student interaction" Holmberg (2005).	o Moore's theory of transactional distance (dialogue, structure, and learner autonomy) (Reyes, 2013) o Behaviorism: knowledge is acquired through objective, observable means (Bates, 2015; Boghossian, 2006, pp. 715-716). o Cognitivism: knowledge is developed through the application of internal processes such as "memory, thinking, reflection, abstraction, motivation, and metacognition" (Bates, 2015; Ally, 2008, p. 21). o Constructivism: knowledge is subjective and is constructed by each individual (Bates, 2015; Boghossian, 2006, pp. 714-715; Jonassen, et. al., 1995).	o Technology-based but different pedagogies and media structures (Peters, 2004) o Structural relationship between DE and online learning (Peters, 2004) o Constructivist learning in online courses (Schell & Janicki, 2013) o Connectivism as a defining pedagogy (Anderson & Dron) o Connectivism as an epistemological position (Siemens, 2004; Schwier, 2011)	o "Open, learner-centred, interactive, inclusive, flexible, participatory, outcome-based" (Peters, 2004, p.21) o Constructivism and complexity theory (Anderson, 2010) o Heutagogy (Hase & Kenyon 2000) o Merging of synchronous with asynchronous communication forms within one web-based delivery platform. (Anderson, 2011)

- o Keller Plan (Keller & Sherman, 1974) Behavioral learning theory, Linear and instructional phases by Gagne's events (Gagne, 1965), Cognitive model (Anderson & Dron, 2011)

3) Institutional and Organizational Developments/ System	First wave (w1)	Second wave (w2)	Third wave (w3)	Fourth wave (w4)
	o "Organised distance education in the form of correspondence education" (Holmberg, 2005, p. 13). o First degree granting correspondence programs offered by established universities such as Illinois Wesleyan University and University of Chicago, but most were short-lived (Pittman, 2008, pp. 169-170). o "In the middle of the 19th century, the first general approach to distance education can be identified wherever industrialization had changed the technological, vocational and social conditions of life" (Peters, 2004, p. 14).	o Growth in single-mode dual mode institutions (Moore & Kearsley, 2012) o Greater support for learners and instructors required (Moore & Kearseley, 2012). o Adaptation of policies to growth in distance education (Moore & Kearseley, 2012). o Team/systems approach to developing instructional resources/strategies (Moore & Kearseley, 2012; Haughey, 2010; King, Young, Drivere-Richmond, & Schrader, 2001) o Beginning of collaboration amongst institutions for development of courses (Miller, 2010)	o Different communication skills for learners and instructors (Moore & Kearseley, 2012). o Opportunities for collaboration offered by online learning (Garrison, 2009) o Development of web-based learning platforms (Anderson, 2010)	o Different communication skills for learners and instructors (Moore & Kearseley, 2012). o Opportunities for collaboration offered by online learning (Garrison, 2009)

4) Teaching/ Learning Methodologies (Role of Teacher/Role of Learner)

First Wave (w1)

- Beginning of asynchronous teaching and learning – printed means (Peters, 2004)
- Letters between student and learner - 1873 - Founded by Anna Elliot Tickner (Holmberg, 2005, p. 14)
- Instruction sheets posted to students including activities to assess progress and provide feedback to learners - 1886, USA (Holmberg, 2005, p. 16)
- Andragogy introduced in early 20th century (Holmes & Abington-Cooper, 2000)
- Cognitive-behaviorist Pedagogy (Anderson, 2011)

Second Wave (w2)

- Transactional distance theory became a major pedagogical concept (Reyes, 2013)
- Synchronous, mass media technology, such as radio and television (Osguthorpe & Graham, 2003)
- Andragogy vs. pedagogy more fully developed and explored (Holmes & Abington-Cooper, 2000)
- ADDIE Model (Bates, 2011)

Third Wave (w3)

- Different organisational skills for administrators (Moore & Kearseley, 2012).
- Still-emerging flipped classroom model (Knewton, 2018)
- Community of Inquiry (Garrison, Anderson, & Archer, 2000)
- Interaction Equivalency Theorem (Anderson, 2003)
- Asynchronous and synchronous communication forms within the online classroom (Anderson, 2009, p. 112; Peters, 2004, p.14)

Fourth Wave (w4)

- Digital information and communication explosion (Peters, 2004)
- New formats of learning materials (Garrison, 2009; Peters, 2004)
- Non-linear learning environments (Anderson, 2010)
- Constructivism and complexity theory (Anderson, 2010)
- Heutagogy (Siemens & Downes, 2010)

5) Predominant Technologies	First Wave (w1)		Second Wave (w2)		Third Wave (w3)		Fourth Wave (w4)	
		o Written Educational Letters – via messenger in Ancient Rome/Greece through the 18th century (Kentor, 2015; Holmberg, 2005, p. 13). o Printed Instructional Materials – mass produced distributed via postal systems in the 19th century (Holmberg, 2005, p. 16) o Modern Transportation Systems – rail and steam engine facilitated work of the postal system and carried communications between instructors and students participating in correspondence courses (Peters, 2004). o Newspaper – Question and answer column in the Mining Herald in 1891 on teaching mining and mine safety (Holmberg, 2005, p. 15)		o Mass mediums (computers, telephone, television, radio, audio, video cassettes, videoconferencing, satellite (Holmberg, 2005, p.9; Peters, 2010, p. 46) o Telephone/Teleconference (Bates, 2011) o Television (Peters, 2010, p. 46) o Radio (Peters, 2010, p. 46) o Audio and video cassettes (Peters, 2010, p. 46) o Videoconferencing (Peters, 2010, p. 46; Anderson, 2010) o Satellite (Peters, 2010, p. 46) o "Experiment Kits" (Bates, 2011) o Two week summer school (Bates, 2011)		o More online technologies (Osguthorpe & Graham, 2003)		o Mobile devices, such as mobile phones and tablet computers, associated applications, and texting (Bognar, 2016, p. 226; Clark, 2011) o Virtual learning spaces (Peters, 2004) o New digital and social media formats in addition to conventional online and offline technologies (Schwier, 2011) o Emerging technologies (Anderson, 2010)

6) Key Authors

First Wave (W1)

- Thomas J. Forster
- William Harper
- H. S. Hermod
- Borje Holmberg
- Greg Kearsley
- Ljoså (1992)
- Michael G. Moore
- Otto Peters
- Wedemeyer (1981)

Second Wave (W2)

- Anthony Bates
- Mark Bullen
- Borje Holmberg
- Greg Kearsley
- Hope E. Kentor
- Michael G. Moore
- Otto Peters

Third Wave (W3)

- Terry Anderson
- D. Randy Garrison
- Michael G. Moore
- Otto Peters
- George Siemens
- Karen Swan
- Schell & Janicki (2013)
- Anderson and Simpson (2012)
- Garrison, Anderson, & Archer (2000)
- Osguthorpe & Graham (2003)

Fourth Wave (W4)

- Terry Anderson (2010)
- Donald Clark
- Stephen Downes
- Hase & Kenyon (2000)
- Otto Peters
- George Siemens
- Schwier (2011)

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Part 2: http://vimeo.com/33523216 (Transcript: http://www.box.com/s/q3f6nuh98mtdydti8b92)

Part 3: http://vimeo.com/33525745 (Transcript: http://www.box.com/s/8jzx6qm65lgj8kt0aep7)

Part 4: http://vimeo.com/33109477 (Transcript: http://www.box.com/s/cnl0nmio1je707iaekmx)

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