Distance Education Waves

Collaborative Project - Group Grid

Group 1 – Ashiya Abdool Satar, Lausten Reed, Nicole Young

FIRST WAVE

Correspondence / Independent Study

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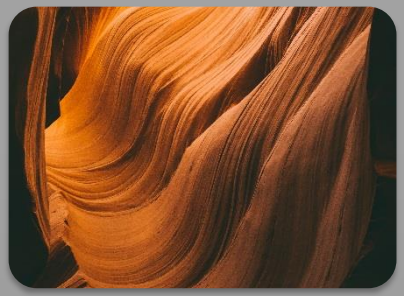

SECOND WAVE

Systems Approach to Education / Distance Teaching Institutions

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THIRD WAVE

Internet / Web-based

Photo by Peter Chamberlain on Unsplash

CURRENT TRENDS

New theories, new roles, new applications of technology

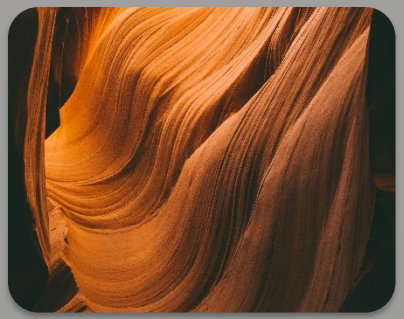
Photo by Scott Taylor on Unsplash

Overview of each wave

WAVE 1

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 is practiced by some distance education institutions (Anderson, 2009, p. 112).

Photo by Peter Secan on Unsplash



WAVE 2

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.

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WAVE 3

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.

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WAVE 4

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)

Photo by Scott Taylor on Unsplash

1) Larger Context

(Economics/ Politics/ Societal Values And Pressures/ Government Policies/ Technological Advances)

WAVE 1

Non-contiguous communication (Holmberg, 2005)

Industrialization of artisanal work (Peters, 2010, p. 14)

Existing educational structures unprepared for ramifications of industrialization and urbanization (Peters, 2010, p.14)

Migration from agricultural to industrial centers (Peters, 2004, p. 14)

Increased desire for upward economic and social mobility (Peters, 2010, p. 14)

Increased commercial competition (Peters, 2010, p. 14)

WAVE 2

Commercialization of DE - increased numbers of students (Peters, 2004)

Inclusion of dispersed and minority students (Haughey, 2010)

Humanitarian elements (Peters, 2011)

Self-improvement through distance education (Holmberg, 2005)

Emergence of open universities (Bates, 2011; Anderson & Simpson, 2015)

Grounded on systems science, method, and technology (Moore and Kearsley, 2012)

WAVE 3

Digital Education and virtual Libraries (Amirree & Khabbazan, 2009)

Widening access for mature adults to university degrees (Curran, 1997)

Open universities and growing demand for DE (Peters, 2010)

Growing adult student population (Peters, 2010)

Promotion of diversity in DE for both students and organizations due to greater access and mass information production (Peters, 2010, p. 48)

Advancements in technology and the expansion of broadband to a wide audience have made online courses a practical alternative to the traditional face-to-face classroom setting (Schell & Janicki 2013, p. 27)

WAVE 4

Lifelong learning as a human right (Blessinger and Anchan, 2015)

DE as a catalyst in social development (Sharma & Mahapatra, 2007)

"Technology has reorganized how we live, how we communicate, and how we learn" (Siemens, 2004)

Implementation of new and emerging collaborative technologies requires massive investments (Meishar-Tal, Yair, Tal-Elhasid, 2010, p. 216)

Global economic volatility and uncertainty leads to receding public funding for education (Kamenetz, 2010)

1) Larger Context

(Economics/ Politics/ Societal Values And Pressures/ Government Policies/ Technological Advances)

WAVE 1

Learning opportunities available to Veterans (Peters, 2010)
Certification available in teaching (Bates 2011)

First correspondence schools were established by entrepreneurs with profit motive (Bernath & Vidal, 2007)

At the beginning of the 20th century governments became interested in expanding educational opportunities to more people (Peters, 2010)

WAVE 2

Wave sees the industrialization of DE (Bates, 2011)

WAVE 3

Distance and virtual education units in conventional universities (Peters, 2010, p. 48)

Virtual universities as spin-offs of traditional universities (Peters, 2010, p. 48)

Misuse of computerized communication for presenting traditional lectures (Peters, 2010, p. 124)

Blended learning becomes a major source of education and a route to greater social inclusion for adult learners (DePryck, Nuyts & Van Laer, 2012)

Integrated digitized learning (Peters, 2010, p. 47)

A reaction to the elitist university system (Haughey, 2010)

WAVE 4

Dedicated focus on the adult and/or professional learner (working professional) (Hase & Kenyon, 2000)

2) THEORIES

(Ways of Understanding)

WAVE 1

Negligible theoretical development in the pioneers era, according to (Holmberg, 2005)

Separation between instructors and students (Gatewood, 2014; Holmberg, 2005)

Emergence of behaviorism and cognitivism (Anderson, 2011)

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)

WAVE 2

Moore's theory of transactional distance (dialogue, structure, and learner autonomy) (Reyes, 2013)

Behaviorism: knowledge is acquired through objective, observable means (Bates, 2015; Boghossian, 2006, pp. 715-716)

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)

Constructivism: knowledge is subjective and is constructed by each individual (Bates, 2015; Boghossian, 2006, pp. 714-715; Jonassen, et. al., 1995)

WAVE 3

Technology-based but different pedagogies and media structures (Peters, 2010)

Structural relationship between DE and online learning (Peters, 2010)

Constructivist learning in online courses (Schell & Janicki, 2013)

Connectivism as a defining pedagogy (Anderson & Dron)

Connectivism as an epistemological position (Siemens, 2004; Schwier, 2011)

Canadians George Siemens (and Stephen Downes have written defining connectivist papers, arguing that learning is the process of building networks of information, contacts, and resources that are applied to real problems (Anderson & Dron, 2011)

WAVE 4

"Open, learner-centred, interactive, inclusive, flexible, participatory, outcome-based" (Peters, 2004, p.21)

Constructivism and complexity theory (Anderson, 2010)

Heutagogy (Hase & Kenyon 2000)

Merging of synchronous with asynchronous communication forms within one web-based delivery platform. Terry Anderson (2011)

The cooperative (a.k.a. collaborative) model is an offspring of and closely related to the constructivist model and seems to be particularly relevant to online courses in higher-level education (Schell & Janicki 2012, p. 30)

Continuance of Connectivism (Anderson & Dron, 2011)

2) THEORIES

(Ways of Understanding)

WAVE 1

WAVE 2

Keller Plan (Keller & Sherman, 1974)

Behavioural learning theory, Linear and instructional phases by Gagne's events (Gagne, 1965)

Cognitive model (Anderson & Dron, 2011)

WAVE 3

Community of Inquiry Model (CoI) - includes social presence, cognitive presence, and teaching presence in the learning process (Garrison, Anderson, & Archer, 2000)

Constructivist learning for online learning (Schell & Janicki 2013, p. 13)

More individualized student communication in online learning encouraged (Schell & Janicki, 2013, p. 34)

Constructivist pedagogies require learners to have experience with hypothesizing and predicting, mentally manipulating objects, posing questions, researching answers, imagining, investigating, and inventing (O'Loughlin, 1992)

Pedagogy emerged recently and is known as Connectivism (Anderson & Dron, 2011)

WAVE 4

"Moving from individual distance Web-assisted self-learning to online collaborative learning" (Meishar-Tal et al., 2010, p. 216)

Net-centric theories (Anderson, 2010, p.23):

i) **pedagogy of nearness** (blended learning)

ii) **Heutagogy** (self-determined learning)

iii) **Connectivism** (communities of knowledge)

Non-linear learning through hyperlinks (Clark, 2011)

Social media platforms (Clark, 2011)

3) Institutions and Organizations

(Systems of Developments)




WAVE 1

"Organised distance education in the form of correspondence education" (Holmberg, 2005, p. 13)

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)

"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, 2010, p. 14)

WAVE 2

Growth in single-mode dual mode institutions (Moore & Kearsley, 2012)

Greater support for learners and instructors required (Moore & Kearseley, 2012)

Adaptation of policies to growth in distance education (Moore & Kearseley, 2012)

Team/systems approach to developing instructional resources/strategies (Moore & Kearseley, 2012; Haughey, 2010; King, Young, Drivere-Richmond, & Schrader, 2001)

Beginning of collaboration amongst institutions for development of courses (Miller, 2010)

WAVE 3

Different communication skills for learners and instructors (Moore & Kearseley, 2012)

Opportunities for collaboration offered by online learning (Garrison, 2009)

Development of web-based learning platforms (Anderson, 2010)

combination and Integration of Several Presentation Methods (Peters, 2010, p. 142)

Multi-sensory Presentations (Peters, 2010, p. 143)

Higher Levels of Activity and Interactivity (Peters, 2010, p. 144)

digitized learning environment (Peters, 2010, p. 148)

WAVE 4

Different communication skills for learners and instructors (Moore & Kearseley, 2012)

Opportunities for collaboration offered by online learning (Garrison, 2009)

Corporate Training Virtual and Charter Schools MOOC's (Siemens , 2004)

Willingness and capability of staff to embrace new technologies, which will require staff development and technical support initiatives (Meishar-Tal, et al., 2010, p. 219)

3) Institutions and Organizations

(Systems of Developments)

WAVE 1

WAVE 2

WAVE 3

Learning Through Storing and Information Management (Peters, 2010, p. 129)

When the constructivist model is implemented at the college level it can be advantageous to the learning process. The role of the instructor in this setting is to act as a guide in the (Schell & Janicki, 2013, p. 29)

WAVE 4

Complex changes in organizational structures required, such as a holistic approach to managing and coordinating the implementation of new and emerging technologies (Meishar-Tal,et a.l, 2010, p. 217)

Full coordination between managers, administrators, and faculty required for the successful implementation of collaborative technologies (Meishar-Tal et al., 2010, p. 218)

4) Teaching/ Learning Methodologies

(Role Of Teacher/Role Of Learner)




WAVE 1

Beginning of asynchronous teaching and learning - printed means (Peters, 2010)

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)

WAVE 2

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)

WAVE 3

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, 2010, p.14)

Modes of interaction (student-student, student-content, student-instructor) (Anderson, 2003)

Teaching presence as a negotiation within a mediated context (Morgan, 2011)

WAVE 4

Digital information and communication explosion (Peters, 2010)

New formats of learning materials (Garrison, 2009; Peters, 2010)

Non-linear learning environments (Anderson, 2010)

Constructivism and complexity theory (Anderson, 2010)

Reflective learning (Blaschke, 2012)

Wikis and emerging technologies have necessitates new assessment procedure, reporting, and capturing Introduction of Wikis (Meishar-Tal et al., 2010, p. 215)

4) Teaching/ Learning Methodologies

(Role Of Teacher/Role Of Learner)

WAVE 1

WAVE 2

WAVE 3

Mixture of face-to-face and online learning (Osguthorpe & Graham, 2003, p. 228)

Chances not only for heteronomous but also for autonomous learning (Peters, 2010, p. 152)

Instructors conceptualize interaction spaces differently (Morgan, 2011)

The obvious difference is the ability to access course material from outside the classroom via the Internet (Schell & Janicki 2013, p.31)

Students are able to access course material at a time of their convenience (Schell & Janicki 2013, p.31)

WAVE 4

MOOCs (Massive Open Online Courses) (Anderson, 2010; Cormier, 2011)

New theoretical models for formative assessment (Black & William, 1998)

Course materials have to be delivered asynchronously via information technology. (Schell & Janicki, 2013, p. 27)

Pedagogic change (shift) - ”Asynchronous learning, the new default” and hyperlinks v. linear learning (Clark 2011)

5) Predominant Technologies

(Used in Distance Education Teaching and Learning)




WAVE 1

Written Educational Letters – via messenger in Ancient Rome/Greece through the 18th century (Kentor, 2015; Holmberg, 2005, p. 13)

Printed Instructional Materials – mass produced distributed via postal systems in the 19th century (Holmberg, 2005, p. 16)

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, 2010)

Newspaper – Question and answer column in the Mining Herald in 1891 on teaching mining and mine safety (Holmberg, 2005, p. 15)

WAVE 2

Mass mediums (computers, telephone, television, radio, audio, video cassettes, videoconferencing, satellite (Holmberg, 2005, p.9; Peters, 2010, p. 46)

Telephone/Teleconference (Bates, 2011)

Television (Peters, 2010, p. 46)
Radio (Peters, 2010, p. 46)

Audio and video cassettes (Peters, 2010, p. 46)

Videoconferencing (Peters, 2010, p. 46; Anderson, 2010)

Satellite lectures (Peters, 2010, p. 46)

"Experiment Kits" (Bates, 2011)
Two week summer school (Bates, 2011)

WAVE 3

More online technologies (Osguthorpe & Graham, 2010)

Several media can be combined and used for the presentation of data (multiple media) (Peters, 2010, p. 47)

many new forms of interaction are possible (Peters, 2010, p. 47)

Information can be searched, stored and retrieved at any time (Peters, 2010, p. 47)

Computer-mediated communication (CMC), including computer conferencing (Garrison, Anderson, & Archer, 2000)

WAVE 4

Mobile devices, such as mobile phones and tablet computers, associated applications, and texting (Bognar, 2016, p. 226; Clark, 2011)

Virtual learning spaces (Peters, 2004)

New digital and social media formats in addition to conventional online and offline technologies (Schwier, 2011)

New and emerging technologies, and collaborative platforms (Anderson, 2010)

Emerging e-learning technologies (Meishar-Tal, Yair, Tal-Elhasid, 2010, p. 215)

Introduction of Wikis (Meishar-Tal et al., 2010, p. 215)

5) Predominant Technologies

(Used in Distance Education Teaching and Learning)

WAVE 1

WAVE 2

WAVE 3

Use of short text messages to online course students in conjunction with emails (Schell & Janicki 2013, p. 33)

WAVE 4

Mobile technologies (Salmon, 2011, p. 52)

Open source software usage (Meishar-Tal et al., 2010, p. 219)

As the popularity of platforms for education has increased, such as Blackboard (www.blackboard.com) (Schell & Janicki 2013, p. 33)

Universities have begun to enter into blanket contracts for the use of multiple online platforms for all courses taught at the university (Schell & Janicki 2013, p. 33)

Social networking in distance edcuation (Anderson & Dron, 2011)

6) Key Authors

(Influential Distance Education Thinkers)

WAVE 1

Thomas J. Forster

William Harper

H. S. Hermod

Borje Holmberg

Greg Kearsley

Ljoså (1992)

Michael G. Moore

Otto Peters

Wedemeyer (1981)

WAVE 2

Anthony Bates

Mark Bullen

Borje Holmberg

Greg Kearsley

Hope E. Kentnor

Michael G. Moore

Otto Peters

WAVE 3

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 (2010)

Martin,F., Klein, J.,& Sullivan,H., (2007)

Bruckman, A. (2002)

WAVE 4

Terry Anderson (2010)

Donald Clark (2011)

Stephen Downes

Hase & Kenyon (2000)

Otto Peters

George Siemens

Schwier (2011)

Paul Black and Dylan William (1998)

Michael Simonson

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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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