| | Forms | Forces dominant in the larger context that drove development of DE | Theories/Ways of Understanding DE | Institutional and organizational development | Prevailing teaching/learning theories/methodologies/Prevailing view of of role of teacher and role of learner | Predominant technologies | Key authors and Influencers |
|-------------|---|--|--|---|---|--|--|
| First Wave | Correspondence/ Independent Study | 1920 radio broadcasting was a way educators saw a medium to provide and support education CNR/CBC-USA, Canada, Australia 1921—First educational radio licenses issues by federal government: Latter Day Saints Univ., University of Wisc. 1926—CNRV broadcast directly to Point Grey School for the Deaf and Blind 1930 CBS/NBC development of educational radio 1941—United States Army correspondence education programs begin at Penn State Study Guidance | Borje Holmberg's theory of guided didactic conservation or empathy in DE/course materials and feedback can be written in friendly tone Tony Bates-1960s Open Universities/UK aim - provide high quality education 25,000 students enrolled/completion rates high OU UK — new era of DE | Sir Isaac Pittman Correspon- dence College International Correspondence Schools | Friendly written course material Teacher sympathy Real and simulated (written) conservation between learner and tutor or educational institution Individual studies Shorthand writing | Inexpensive printing Postal delivery Railroads | Isaac Pittman William Harper Thomas Jefferson Forster William Lighty Margaret Haughey (2010) |
| Second Wave | Systems Approach Develop of a Model of DE Distance education system Education system Systems and subsystems: Components –management content, course design, Human resources Evaluation, policy | Studies by Wisconsin's AIM Project/Breat Britian's Open University Aim -delivering high quality and lower costs off- campus learning | University of South Africa –UNISA oldest DE teaching university Apartheid – UNISA diversity enrollment policy Connectivism | Open universities Expansion Resistance From Conventional universities Single mode institutions emerge | Student support and counseling, peer study groups, and use of campus labs Student-centered learning Transactional Distance (structure, learner autonomy, dialogue) Constructivism | Telephone Computers asynchronous communication Databases Web surfing | Peters Holmberg Bates Shale Wedemeyer |

| | Organization of professional conferences Publication of scholarly journals Establishment of professional organizations (regionally and International) DE develops as a major form of education education Industrialized Institutions forms Large open Universities emerge | Major development of scholarly literature in professional journals on key shifts in education principles, strategies, and guidelines – traditional and DE education | | Tutors (support for DE students, Counseling, face-to-face teaching) Large regional and local study centers Multi-dimensional open university concept Develop of Multimedia Education Post-Industrial education | Autonomous learning Seminars/ conferences Attendance Three generations of DE pedagogy Cognitive-behavorist Social constructivist Connectivist pedagogy | Tele- Communications (DE design/ Development Teaching CD ROMs Audio/video cassettes Educational Radio/television | |
|------------|--|--|--|--|--|--|--|
| Third Wave | Internet / Web-based platforms Synchronous/Asynchronous communications Mass Media technology World Wide Web Platforms Globally development Of the systems Approach Expansion - Post-industrial system approach Micro-factors – A Conceptional Model of DE | Quality and quantity of student/teacher interaction Internet/Digital methods suitable for use by large populations Study by Alan Greenberg -2009 mapping the latest research into Video based DE Study by Anderson Garrison, Archer (1999) Assessing social presence in asynchronous Text-based Computer Conferencing Study by Wise, Chang, | New Institutional Forms Systems Approach Expands Transactional Distance (Boyd and & Apps, 1980 as cited in Moore & Kearsley, 2012). Andragogy (1995) Constructivism (1995) Internet-Web (Vaughn, 2010) Communities of Inquiry (Swan, 2010; Garrison, Anderson, & Archer, 2000). Equivalency of Interaction (Anderson, 2003) | Rapid, current and lower costs ICT methods to distance education Online Learning Blended Learning Single mode universities | Computer literacy for teachers and learners, and support services Active and authentic Learning Learning by doing Scaffolded learning Student participation – expansion forms of Peer and group interactions Group study for DE Collaboration Students work on group projects Synchronous/asynchronous communication Social presence Learn becomes Non-linear | Streaming Video Learning platforms such as Blackboard Web delivered lecture such as TED Talks K-12 Online Learning Explosion of new technology devices | Terry Anderson Jon Dron John Dewey Randy Garrison Michael Moore Karen Swan Otto Peters Norman Vaughn Faezeh Sadat Tabatabaee Amiree Bentolhodah |

| | | Duffy & Vale (2004) Study by Anderson & Dron – Three Generations of DE (The effects of teacher | | | Students become More self-directed Home schooling | | Khabbazan Federal Government No Child Left Behind - US law |
|---|---|---|--|---|---|--|---|
| | | presence on student satisfaction, engagement, and learning | | | | | |
| Current Trends Internet/ICT methods Open Universities computer Teacher/ student student/student Support | New theories, new roles, new applications of technology Plan to compete globally with various learners providers. Understand the paradigm of thinking in higher education has changed in the 21st century Various state - Federal level technology In education groups Digital learning Environments Five generations of DE learning Corporate Universities Virtual schools For profit schools University of Phoenix Capella Univesity Penn State | Studies on new Education digital devices Social Networking: Smart Phones ITelephione Tablet Computers Single Platform Technologies Blogs Cloud solutions Study by Noreen & Hafeez (2012) A study on adopting emerging metholological trends by distance learners Study by Ravenscroft (2011) Dialogue and connectivism:A new approach to understanding and | Connstructivism and complexity (Anderson, 2010). Heutagogy (Hase and Kenyon (2000). | MOOCs Open Universities Existing research universities embracing DE. Kahn Academy style freely distributed material Mega-Universities Diploma Mills Community Colleges Association For DE and Independent Learning Corporate Training Certification & testing companies Strong U.S. | New use of Internet and other technologies Study market and demographic student groups Be responsive to adult learners' needs Focus on quality of materials Streamline instruction systems Conference discussions interaction Online Groups Friendly participant relationships Student positive learning and motivation perceptions -online learning Heutagogy Changes in teaching and learning Allow students to evaluate | MOOC Web 2.0 Electronic Publishing MP3 files Podcasting Computer Mediated Communication Computer based learning Web based learning platforms/ Learning Management Systems Satellites/ Interactive/Computer based video conferencing Internet-based virtual classes Audio/video Media | Steven Cohn, Columbia University Terry Anderson George Siemens International Association for Distance Learning Michael Simonson |
| | University UMUC | promoting dialogue-rich networked learning Role of information communication technology (ICT) 1950s | | Department Of Defense Training & degree Institutions Formal Continuing Education Programs Major health care education | Learning – teachers guide and facilitate Diverse and international student populations Course design in multiple languages Student culture differences Learning anytime | Social Net- Working and Media applications Learning Management Systems MIT Open Curseware- Harvard University | |

| | | and training programs Major cyber- security education And training programs Charter/virtual schools | anywhere Online behavior Respectful/friendly Regular teacher Feedback Non-verbal cues Self-directness Garrison, 2009) | |
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