

***METHODS OF EVALUATING USERS COMMUNICATION SKILLS IN
SYNCHRONIZED ONLINE DISTANCE LEARNING ENVIRONMENTS: A
SYSTEMATIC LITERATURE REVIEW.***

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Abstract :

This systematic review is a part of an ongoing doctoral project to reach a fundamental understanding of the phenomena of communicating in distance learning (DL) contexts. The review searches the literature for methods that are used to evaluate communication practices in a synchronised online education environment and the outcomes that demonstrate best practices, with this attempt being based on the 'fifth generation distance learning model'. The fifth generation model is based on the Flexible Learning Model that interacts online with internet-based access to the world wide web WWW, using automated response systems, Computer-mediated communication (CMC), and has portal access to institutional processes and resources:(Taylor, 2001). The paper starts with an introduction to the topic, followed by a briefing about the issues of distance learning generations, communication, and evaluation methods of distance learning. The systematic literature search and review model used is an adapted version of the process undertaken by the UK National Institute of Clinical Excellence (NICE) reference required here, just put it in, name and date. The aim of this review is to extract information and explanation from the current literature in relation to evaluating communication in Synchronised Distance Learning and Online learning environments.

Key words:

Evaluating Distance learning, virtual Learning, Communication Skills, Fifth Generation Distance Learning.

Introduction:

With the use of technology the provision of distance learning courses has expanded in universities and other higher education institutions internationally with the result that communication on distance learning programmes is more effective, saving time effort and money.

From this new way in delivering information and communicating interpersonally, new ways of evaluation have been required and the use of evaluation methods has become a challenge to keep up with the dynamic changes in technology from Blackboard to Webinar, there is always something new. This systematic review provides a range of studies identified through a formalised process that examines methods of evaluating synchronised online education using literature from 2000 till present. The review includes a search of electronic databases, grey literature and citation along with scanning for past systematic reviews and meta analyses in the field. The outcomes of the search form the basis of the literature review for an empirical doctoral research project. This paper identifies the relevant journal articles, and outlines the search process, scrutinising and coding of the papers based on the United Kingdom's National Institute for Clinical Excellence (NICE) provide the name and date ref here. This paper will start with discussing online education, followed by an outline the methodology, the findings and a discussion of the review process and results.

The Distance Learning Evolution:

Distance education systems have evolved through several generations (Taylor, 2001). First the Correspondence Model based on print technology, followed later by the Multimedia Model based on print, audio and video technology, and the Tele-learning Model based on applications of telecommunication technologies to provide opportunities for synchronous communication. The Flexible Learning Model came close on the heels of the Tele-Learning Model and was based on online delivery via the Internet, followed by a derivation of the fourth generation, which aims to capitalise on the features of the Internet and the Web.

Fifth Generation Distance Education:

In this review, when discussing distance learning it refers to the fifth generation of DL as it is based on the Flexible Learning Model with the following characteristics of

Technology Delivery. Taylor's (2001) model includes flexibility in time and place and highly refined materials. It includes advanced interactive delivery in Interactive multimedia (IMM) online, Internet-based access to WWW resources, Computer-mediated communication (CMC), using automated response systems, and campus portal access to institutional processes and resources.

Communicating in Distance Learning:

In the author's previous systematic review (Yaghmour 2012), She identified that perceiving in DL is an important issue. People perceive by communicating (Tom, 2007) In traditional learning tutors and learners have an open loop process in communicating , whereas in e-learning communicating is a closed loop process (Tom, 2007). With physical separation in e-learning, and a lack of face to face interaction, communicating becomes more challenging. The most common ways of communicating in synchronised virtual classrooms are verbal (speaking, chatting or texting words), or non verbally (listening, texting emoticons) using computer mediated communication.

In a dissertation submitted to the Graduate Faculty of North Carolina State University the term of Computer Mediated Communication (CMC), and Synchronous Communication (SC) were defined: (Carpenter, 2006). This needs to be either removed or perhaps you should say what these definition are.

Evaluation methods for communication skills in Online Education:

A range of approaches have been used in evaluating distance learning and it is the aim of this systematic review to identify and reach an understanding of best practices were used in the existing literature. However, first it is important to specify the definition of online learning in education. Online education could be defined quite generally. However, this review refers specifically to the use of the internet and the World Wide Web in distance learning. Another concept is synchronised, which refers to the of the users tools as online tools could be either synchronous or asynchronous. Synchronous online tools allow real time or same time communication interaction in distance learning lectures or classes, for example, an online chat room is a synchronised tool (Balanko 2002).

Interventions applied to evaluation methods in Online Education:

Evaluation methods in Online Education include: a range of ways to evaluate the learning process (comparison, benchmark,), communication between users (teacher and student, student and student), ways of synchronised communication among users. The most common ways of communicating in synchronised DL lectures are verbally (speaking, chatting or texting words), or non verbally (listening, texting emoticon) and the use of Computer mediated communication (CMC) which includes include instant messaging and chat rooms. Other interventions measuring the users communication based on a positive negative approach depend on levels of adoption of the technology (high levels of the intervention indicating positive communication and interaction and low levels indicating negative); level of motivation (high levels of the intervention indicate positive communication and interaction and low levels are negative); the level of discipline (high levels of the intervention indicate positive communication and interaction and low levels are negative); the level of collaboration (high levels of the intervention indicate positive communication and interaction and low levels are negative) and the level of anxiety.

The focus of the review :

The review focuses on analysing the methods used to evaluate communication skills practices between users in a synchronised distance education via e-learning and virtual learning environments. This need to be taken out because it is repeating previous material.

But I'll leave that up to you.

Method:

- In this review several stages were implemented as part of a systematic process (Khan 2003; Petticrew 2006). The review questions were framed; the types of studies needed to answer the question were identified; a comprehensive literature search was carried out to locate the intended studies; relevant work was identified work screening the studies located by using inclusion criteria to identify studies for in-depth review; the quality of studies was assessed; the included studies were processed by mapping the field, and critically appraising them for quality and relevance; the evidence was summarised and the findings interpreted.

Framing the review question

The review question was developed considering the component parts using a model called PICOC (Population, Intervention, Comparisons, Outcomes, Context.(Petticrew 2006) and the focus of the review will be the research question.

PICOC (Pettigrew and Roberts,2006,pg27) :

- 1 - Population : Higher Education Students, / Higher Education instructors, teachers/ 18-60 years old.
- 2- Intervention: methods of evaluating Class interaction, Communication skills, Chatting, Texting. Level of adoption to the technology, level of anxiety, level of motivation, level of discipline. Other factors effecting communication interaction among users, communication factors in online education, communication barriers in online education.
- 3- Comparison: Users of first year DL and end of first year DL users.
- 4- Outcomes : The aim of this review is the implementation of best practice to evaluate communication skills interaction among users in a synchronised segregated DL higher education environment.
- 5- Context: explanation known on the context in which it was delivered and how and why it worked or did not work.

The aim of the study is to perform an extensive systematic review of the empirical literature on methods of evaluating communication practices in a synchronised online education environment; the questions that this research addresses are:

- What methods are used to evaluate communication practices in a synchronised online education environment ?
- What studies illustrate outcomes of best practices for communication skills in a synchronised DL online education environment ?

Determining types of studies needed to answer the question:

To identify the types of studies required to answer the questions, a scoping search of the following databases was carried out:

- SCOPUS.

- CSA Illumina.
- Web of Knowledge.
- Pro Quest [using 20 Databases.
- Educational Databases(using three databases: Eric, Australian educational index, British educational index).
- Google Scholar.

The first search key words were identified from a broad unstructured scope of the literature:

- Evaluating methods for :
- "E-Learning"
- "Online learning"
- "Distance learning"
- "Fifth generation Distance learning"
- "Virtual classrooms"
- "Open learning"
- " Cyber lectures".
- "Computer Mediated Communication" (CMC).
- " Communication skills"
- " Class room interaction "

Carrying out a comprehensive literature search to locate the intended studies:

A second search to identify previous systematic reviews and meta analyses within the

topic area was carried out in order to prevent duplication. Grey literature from the UK and Saudi Arabia were looked at for relevance:

- U.S. Department of Education, Office of Educational Technology. Distance Learning
- International Conference on Technology and Education
- Multi-Media Education Resource for Learning and Online Technology.
- The Distance Education and Training Council.
- Innovations in Distance Education, Penn State University.
- Distance Education Online Symposium, Penn State University.
- Instructional Technology Council.
- Educational Associations in the Kingdom of Saudi Arabia.

Identifying relevant work by selecting studies found using inclusion criteria to identify studies for in-depth review.

Inclusion criteria:

The inclusion criteria selection was developed based on the aims and objectives of the review

1. Methods of evaluating E-Learning : Online learning, Distance learning, Virtual classrooms, Open learning, Cyber lectures, Computer Mediated Communication (CMC).
2. Communication factors in online DL education
3. Communication barriers in online DL education
4. Involving users of DL age 18 – 60 .
5. Involving teachers and instructors of higher education.
6. Involving learners/students of higher education.
7. Research from 2001 to the present. This date was set based on the period of increasing online DL education with its present structure .

8. Synchronised, same time online or e-lectures.

9. Computer mediated communication (CMC)

10. Directly addressing the issue of evaluation through the use of an intervention: Class interaction, Communication skills, Chatting, Texting. Level of adoption to the technology, level of anxiety, level of motivation, level of discipline, level of collaboration.

11. Studies in English or Arabic.

Exclusion criteria

- The exclusion criteria selection was developed based on the aims and objectives of the review Research before 2001.
- Studies involving users of DL under the age of 18 or older than 60.
- Studies not including same time communicating in virtual or e- learning interaction.
- Studies with a primary focus on evaluating Technical barriers of communicating in an e- learning environment. (example: weak internet signals resulting in communication defaults).

Studies in languages other than English and Arabic.

Summarising the evidence:

Sample of Empirical Papers

Twelve studies were selected, based on this search methodology and the inclusion, exclusion criteria listed above.

Procedure and Measure :

To increase the reliability of the systematic review all papers were analysed and graded for quality according to the adapted study coding manual based on the National Institute for Clinical Excellence manual, Milne, 2011).

The 13 sample papers:

You could put these in a table with the titles of the papers.

Pena-Shaff, 2001

Anolli, 2001

Lockee, 2002

Cavanough, 2002

Sunal, 2003

Bernard, 2004

Allen, 2004

Laghos, 2005

Yukselturk, 2007

Greener, 2009

Wang, 2009

Bower, 2011

Dabaj, 2001

Descriptive summary of the studies:

Study	Models , Design & Theories: Which Models were used to measure CS?	What types of synchronized communication was measured? And what outcomes were presented
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1- (Pena -Shaff 2001)	Levin's model of "messages act analysis protocol" and "messages map"	Text chatting out comes presented analysis of the thread of discussion, topic initiators and posting statistics. Text chatting was very informal (use of nick- names and slang) and ideas were usually unclear and incomplete.
2- (L.An olli 2001)	The Miscommunication as a Chance Theory, The Positioning Theory, the Situating Action Theory, The Social Identity Model of De- individuation Effect, and the Social Information Processing perspective	Internet Relay Chat. IRC Text chat lacks nonverbal cues that facilitate face-to –face conversation CMC differs from face to face communication due to the absence of meta-communication features like tone of voice and facial expression.
3- (Barb ara Locke e 2002)	Formative and Summative evaluation.	In summative evaluation categories of Evaluation Concern implementation such learners communication
4- (Cava naugh 2002)	The resource, practice and result RPR Cycle	Communication between students and others is a key to success. A quality benchmark is to involve students in communication 50% of the time spent on the course.

5- (Denn is W. Sunal 2003)	A systematic method that categorized best practice in four categories that are: students behavior, faculty student interactions, technology support, and learning environment.	Synchronous interaction encourages greater participation than asynchronous interaction
6- (Robert M. Bernard 2004)	A meta analysis that compares DL with classroom interaction.	Outcomes of the review were unable to present design and development of quality DE. However the study spoke in broad terms about some of the important issues such as Communicating through mediation appears to benefit students in synchronous DL.
7-(Mike Allen 2004)	A meta analysis that compares evaluating the effectiveness of DL with classroom	Results slightly favor the performance of DL classrooms . the outcomes should be interpreted cautiously.
8- (Andrew Lagho s 2005)	Content Analysis, Human-Human Interaction Analysis, Social Network Analysis (implementing four case studies	Results show that some students are more central in discussion.

9- (Erman Yukse lturk 2007)	A combination of quantitative and qualitative research methods	Quality of online education can be influenced with factors such as students communication
10- (Greener 2009)	Role- modeling	Outcomes of the study demonstrates development of effective learning behaviors and skills in HE, examples are analyzing online communication, adopting personal reading strategies, Social presence online, and guidelines for synchronized discussions.
11- (Y.Wang e N.S.Chen, 2009)	Evaluating the effectiveness of synchronous learning management system for distance language classroom	Major criteria for evaluating synchronous learning management system for distance language classrooms
12- (Bower 2011)	Design-based research process.	Four levels of online collaborative competencies were observed: operational, interactional, managerial, and design. Technology is important to achieve collaborative competence .

13- (DAB AJ 2011)	The study is related to three communication theories that are : Diffusion of innovation, Knowledge gap, and uses and gratification.	Barriers of communication in DL can be divided into three main categories: Barriers from students' point of view, Barriers from instructors' point of view, and Barriers from administrative point of view.
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Critical Analysis

After examining the literature in relation to the methods that are used to evaluate communication practices in a synchronised online education environment, little was found to support the issue and some outcomes in part presented practices for communication skills in a synchronised DL online education environment but not as a whole. This might be as a result of most studies addressing the topic as part of the evaluation of the DL setting and not focussing on it as a conceptual phenomenon.

After reviewing the current literature on methods of evaluating synchronous DL, and with the dynamic changes in the technical world this issue must be evaluated continuously to follow up with new online surroundings and to point out gaps to improve communication and learning outcomes.

Conclusions and Recommendations :

After critical analysis of the findings has been presented, some related knowledge to the current research that show that communication is important in DL but lacks a fundamental understanding on how we could promote these skills in the quality of educational outcomes to achieve the goal of HE in supporting Lifelong Learning. This poses a methodological question that should be addressed in upcoming research. This methodological question is : How does effective communication skills practice in synchronised online Distance Learning help to promote the aim of DL in supporting Lifelong Learning?

Thus as a recommendation, it is suggested that further research is carried out in relation to the issue to evolve a fundamental understanding to increase quality and understanding of the topic. Some suggested issues that could be considered are: How do we use our communication skills during learning in a synchronised distance learning environments?, What ways of communicating are more effective with students? Does communicating in this way change the ways we learn and communicate in face to face communicating?, It is known when we communicate by reading, listening, writing, nonverbally, verbally our experiences becomes part of us, part of our thinking and ways we act is this still the issue in DL? And are we effected more or less? And how are we changing?

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