

Looking At E-Learning Through The Lens Of A Communication Model

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Abstract

As information technology's power and ubiquity have grown, its strategic importance for the education industry has similarly increased. Most institutions are now offer e-learning at least in some form within their contact, distance or blended learning formats. As Carr notes,

'the very power and presence of information technologies have begun to transform them from potentially strategic resources into commodity factors of production in the teaching and learning environment. (2003,p.50)

At the same time there has been a plethora of new jargon and terminological confusion around the 'delivery' of learning to students according to these modes and technologies. Terms like open and flexible learning, computer-aided and online learning, and contact or centered learning have often been used interchangeably and differences in meaning, content and intent are sometimes blurred or unresolved.

The authors contend that teaching and learning is at its core a process of communication, and therefore e-learning can be analyzed according to communication theory and models. This paper proposes an exploratory analysis using a communication model based approach, to draw certain conclusions about the meaning and appropriateness of the concepts and terminology related to contact learning, electronic learning and blended learning.

Preliminary findings suggest that much can be learnt from clearly identifying the components and the implications of two-way communication in learning and teaching.

As New Zealand's primary institution of distance learning, we are continually transforming our methods of teaching and learning. This paper forms the preliminary focus of a larger research project.

Keywords: Blended distance e-learning communication model

Introduction

Historically, there have been clear differences between contact and distance institutions. Global trends suggest that increasingly organisations need to become equally proficient in both modes of delivery. The reality however, is that each type of institution has made piecemeal efforts to synthesise the two approaches -e.g. using electronic platforms to simulate contact.

At the same time there is a lack of agreed meanings in the terminology used in e-learning and blended or contact delivery. Contact, for instance, is not useful as a definition for institution-based delivery. A more precise definition might include face to face/interpersonal/small or public group communication as constituents of 'contact'. Distance education practitioners could argue that they also provide 'contact', albeit via electronic media.

The terminology currently in use is often too amorphous, and lacking the accuracy required to make it useful. We suggest that *teaching and learning is at its core a process of communication.*

We therefore propose that the application of a heuristic communication model, with more clear cut definitions, will be helpful in arriving at a better understanding and description of the activities involved in contact, distance, blended or e-learning.

Distance education is variously defined, designed and delivered by some sort of communications or information technology. Distance educators claim to focus primarily on the pedagogy used in conjunction with these technologies, yet the impact of technology on the communication phenomenon is less considered. One of the key challenges for educators and researchers is to differentiate the effect of the media from that of the message (Anderson 2007, Kozma, 1994), a challenge that sits firmly within the communication discipline. Put another way, this suggests the need to examine e-learning processes from the perspective of the communication science.

As Anderson (2007) points out, the pedagogy or learning activities employed exist in direct and mutually dependent relationships with one or more technologies that support their effective use. This capacity for technologies to support and allow certain activities while preventing others, has been referred to as the affordance of that technology (Gibson, 1977). It is not solely the property of the technology but rather the way the application is used in real contexts by both experts and novices that define its affordance (Anderson 2007:2). Social, political, personal, economic and other factors constrain and define the ways in which the technology is actually used in everyday life.

This study presents a heuristic communication model that raises questions about the way that educators and learners, appropriate, contextualize and modify new technologies to support their daily activities within a variety of well established communication contexts (interpersonal, small group, public, etc) within overarching organisational, national and global contexts.

Why is it essential to understand e-learning through the lens of communication theory? We argue that as well as ensuring e-learning is 'good' communication in and of itself e-learning should also develop good communication skills in its participants. As Eunson (2007:vi) provides good reasons for this view:

- As communication technologies proliferate, it becomes possible to be misunderstood in many more ways, so new strategies of communicating clearly become more important and more urgent.
- As technology becomes dominant in many work processes, the human element of communication becomes more necessary as a counterweight and a 'reality testing' tool.
- As more learning goes online, much of it is convergent – that is, only one solution for any given problem is offered. In the real postmodern world, many problems are divergent – there are many solutions to one problem. Communication concepts in their nature tend to be more divergent than convergent.
- Communication skills have very long shelf lives, remaining relevant for life and are transferable between jobs and careers, while most technical learning becomes obsolete in a relatively short time.

Course designers and learning managers have largely ignored such views and the issue has become a communication problem in the field of e-learning itself. The continuing belief that communication skills can be just picked up along the way is erroneous. It is common to hear academics and trainers to argue, for example, that team and group skills can be acquired simply by setting team assignments for students. Nothing could be further from the truth. Students need to study group interaction as separate and pedagogically valid set of content before embarking on team assignments. Eunson (2007:vi) argues that the communication discipline has shown clearly that:

- Group/team decision-making can be faulty if its dynamics are not understood.
- 'Free riders' may unethically attain credit defeating the purpose of team assignments creating cynicism and conflict in the team. Students lacking confidence find it easier to hide behind group activities.
- The team may be an artificial construct driven by the tutor and lacking authentic group dynamics.
- The concept of teams may be inappropriate and dysfunctional for some real world tasks.
- The concept of teams may need to be challenged: while it implies empowered decision making, in many real world situations it may be nothing more than a smoke screen to mask disempowering and autocratic decision making.

This broader context means that not only skills in communication, but also critical knowledge about communication and its context, need to be acquired.

Components of the Communication Model

Definition of Communication

There are numerous definitions of Communication. It can be seen as a 'negotiation and exchange of meaning, where messages, people- in-cultures and 'reality' interact so as to enable meaning to be produced or understanding to occur' (O'Sullivan et al., 1989, p.42).

It is also defined as a two way process whereby a sender sends a message, (conveying information) to a receiver, who reacts to it. Effective communication is the process of sending a message in such a way that the message received is closest in meaning to the message sent. (Viviers and Van Schalkwyk, p.6)

The first definition identifies the different stages of the communication process in order to study each component in turn and see what role or effect it each has on the communication. Laswell sums this up in his model that asks 'who says what by what means to whom and with what effect?'(in O'Sullivan et al. 1989, p. 42))

Our approach focuses on the expression and interpretation of messages and encompasses the relationships between all the necessary components for effective communication to take place. It studies the 'text', signs and codes, the people who interpret the 'texts', and the cultural and social contexts that influence the communicators and the codes they use, and an awareness of the social context and reality in which the people and text are situated (O'Sullivan et al, 1989, p.42. Mersham et al. 1995, p.55).

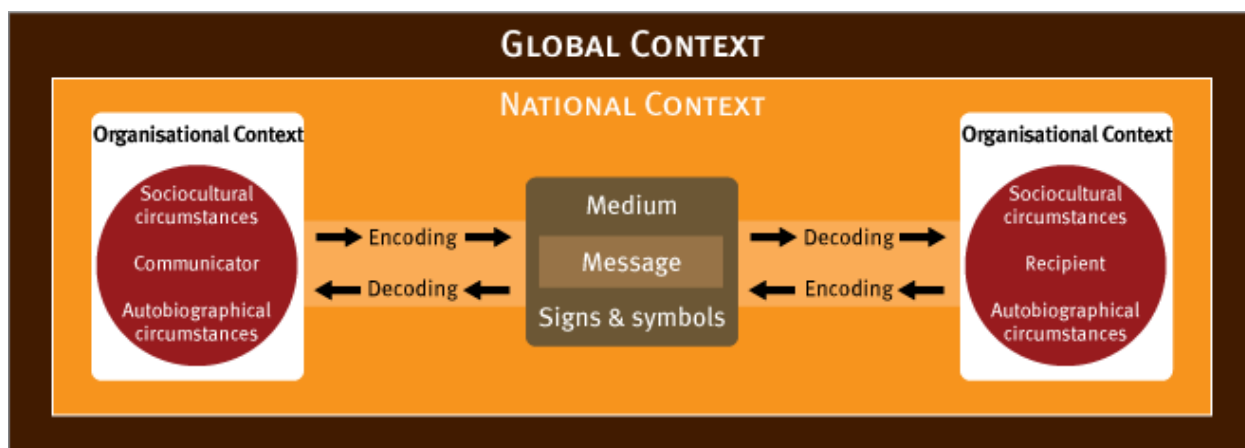
This theoretical framework is the social-constructivist (or collaborative-constructivist) perspective, which puts the role of communication and interaction at the centre of learning. This perspective argues for enabling the 'construction of meaning and knowledge through shared dialogue and discourse and the confirmation of understanding through mutual sharing and testing of ideas in a collaborative environment.' (Mason, Harland, in Jones and Cook, 2006, p.262). The guiding principle of constructivism in learning theory is that learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.

The model on the next page illustrates the three central components of the process: communicator, message and recipient, as well as a series of contexts.

Communicator

Mersham *et al* argue for the 'communication equality' between communicator and recipient and in the Mersham model, the designation 'communicator' and 'recipient' are interchangeable (1995:54), mirroring the transactional and dialogical view of communication.

The communicator must encode the message so that the recipient is able to decode the meaning accurately. The sender has a specific goal when formulating and sending the message, and expects the recipient to react in a particular way, manifesting the expected result that was the goal of the message.



(Model adapted from Mersham *et al*, 1995, p.55)

When communicating, the sender must bear in mind a variety of factors that will influence the communication, such as the level of language proficiency, level of education, cultural and contextual factors of the recipient. The recipient must also have the necessary skills to decode the message within this context.

The communicator will be influenced and shaped by his/her autobiographical and sociocultural circumstances. The same is true of the recipient (who becomes a communicator in the communicational transaction).

Mersham *et al* (1995:5) argue strongly for the recognition of autobiographical differences circumstances their model of development communication. In spite of the commonalities that link us into the social structure, no two lives are ever the same in terms of individual experiences, expertise and world view. "It is these personal circumstances (in the model) that warn the communicator to remain constantly aware of the differences in life experiences of the various players in the communication experience (Mersham *et al* 1995:57).

Message, medium and codes

The message needs to be encoded in such a way that the meaning is decodable by the recipients in the communication process. The choice of medium and code is therefore very important. The sender must have the necessary skills to encode the message technically and in the chosen 'language' or code. The sender also needs to monitor whether the recipient has actually understood the message in the desired way.

The medium can be regarded as a receptacle or platform for the signs and symbols that constitute the codes of meaning to be conveyed. Each medium has its own set of encoding possibilities and structures, reminding us of McLuhan's statement (1967) that 'the medium is the message' (Mersham, 1995, p.55). The medium will shape what the message is, and how it is conveyed.

'Codes are a system of signs governed by rules agreed (explicitly or implicitly) between the members of the using culture' (O Sullivan *et al*, 1989, p36).

Codes are therefore vehicles for transmitting agreed meaning via a particular medium.

Language, for instance, is a code, consisting of words, which are signs and symbols, governed by grammar, a set of rules regulating their use. To understand the language or code, or code system, you need to know the agreed meanings attached to that system of signs and symbols. Language is the most sophisticated or versatile tool for communication. (Mersham, 1999:19). In this paper we define language as a verbal code whether it is written or spoken.

Non-verbal codes

Visual codes include kinesics, proxemics, graphics, colour, page layout, models, and objects. Acoustic codes include sounds of humans, animals and objects, and music. Tactile codes involve touch- the field of study involving the use of touch is called haptics.

One further code is called chronemics, which involves how we interpret messages in terms of time. For example, cultures vary in their perception or interpretation of time - some cultures are very time driven, while others are not. Pauses, delays, etc can all influence how we perceive the message. (Mersham, 1999, p.19-37)

Non-verbal codes can repeat or reinforce the message, contradict the message, substitute the message, complement the message, or relate to and regulate the message. Whereas verbal communication is very much a question of awareness of the code, planning, selection and manipulation of the words available to us in a given language, non-verbal communication is largely or often involuntary, closely related to what it represents and not arbitrary or continuous. (Viviers and Van Schalkwyk, 1992, p.26)

Therefore, when we communicate, we use both verbal and non-verbal language. Even when we are not trying to communicate, we are unconsciously sending messages to people around us - we cannot not communicate. (Viviers and van Schalkwyk, 1992:21)

We also have to take into account technical coding, for example using a platform like Moodle, using html, each having possibilities and restrictions. Large files will have an impact on decoding if recipient has dial up. Mersham says that signs and symbols (arranged into 'codes') are devoid of meaning in themselves. They can mean something to somebody only if the source or sender gives them specific meaning and if the receiver sees a specific meaning in them. The meaning

of a sign depends not only on personal interpretation, but also on collective agreement that may vary across time, space and culture.' (1995:55)

Recipient

The recipient receives and interprets the message. This completes the communication process. The recipient needs to interpret the message, and internalize the meaning. The recipient is an equal partner in the process, and his or her participation and feedback must not be overlooked or minimized. In particular, the intended meaning (expression of meaning content) may not be interpreted in the way the communicator intends, as a result of both technical and cultural decoding. I will return to this point.

When the recipient gives feedback, he or she becomes the communicator, and the whole process takes place in reverse order.

The factors that apply to the sender, apply equally to the recipient when the recipient becomes the sender.

Mersham argues for *communication equality* between communicator and recipient in his graphic communication model, and the ongoing switching of roles in the dialogic, transactional process (Mersham *et al*, 1995:54). This has important implications for teaching and learning approaches.

Mersham *et al* (1995:57) argues that intentionality in communication theory is often linked to the thesis that 'communication equals successful communication', that is, the objective of a conscious communication is achieved. The most important function of communication in this view is transferring specific ideas in the mind of the communicator or source to the mind of the recipient or interpreter. According to Mersham, this view dominates many communication models, especially those directly related to occupations in the general field of communication activities. The AIDA (Attention-Interest-Desire-Action) principle in advertising is a good example of this approach. In this perspective the communicator sets stimuli in motion with the specific intention of influencing the recipient. However, Mersham views communication as a dialogue, stressing that it is the value and significance attached to the message by the recipient which determines whether 'true' communication actually takes place.

Mersham (1995:55), in his model, has included national and global contexts as subsets of social contexts, and we will examine the importance of these contexts later in the paper.

Focus on learner community and learner-centred approaches (recipients)

Interactivity and collaboration are regarded as necessary for successful student-centred learning. New technologies are making it possible for students to interact with the tutor, work collaboratively with peers, and take greater control of their learning.

(Beldarrain, 2006, p.1)

Tools fostering learner interaction and control are therefore deliberately built into the design of course materials.

If we look at the communication model, the question arises whether our communications are or can be learner-centred, and even whether they should be, considering the principle of equality of the participants. To make it learner-centred may overlook the role of the institution and instructor or facilitator, and may need a rethink regarding design. The latest thinking regarding lifelong flexible learning incorporates learner-centred materials where the student has no recourse to a tutor, classroom or institution. (Mulder, 2006, p.3).

The Various Contexts Of Communication

Communication context

Communication context describes the situation or environment within which the communication takes place. It influences the entire communication process. (Viviers and van Schalkwyk, 1993, p.7, Mersham and Skinner, 1999, pp. 87-186). Generally, these contexts are grouped as follows:

- Intrapersonal
- Interpersonal-one on one
- Small group < 20
- Public group > .20
- Mass communication

The first context is internal communication, called intrapersonal communication. This happens when an event or condition triggers an idea in the mind of the communicator, which is expressed as an 'internal dialogue with the self' (Mersham and Skinner 1999:89). Internal dialogues as part of the process of internalizing of learning would apply here.

Interpersonal communication involves two people, and the communication interaction between them. This is usually face-to-face, but may also involve two-way communication via other mediums.

Small group communication takes place when a small group of people are involved in usually decision-making activity. It includes interpersonal communication, and most of the theories relating to interpersonal communication apply, but with certain exceptions (Mersham *et al*, 1995, p.88). For example group dynamics, the necessity of turn-taking and so on has important implications for e-learning activities related to real time online forums and discussions.

Public group communication relates to public speaking and public addresses. The speaker does most of the talking, while a large number of people do the listening. Receiver feedback is usually minimal and indirect.

Mass communication relates to communication with large groups of people via modern technologies. Traditionally this has meant that receiver feedback was also minimal and indirect. However, digital technologies are increasingly making mass communication channels more interactive.

Mersham (2001:1-34) in discussing the new digital technologies, refers to the 'rear vision mirror' effect of the Internet. All historically preceding media are reflected in it so that, for example, it is possible to both watch and create television (Youtube), listen to and create audio (podcasts); read and create all manner of print media. He also argues that digital web-based communication also represents opportunities to engage in all of the traditional contexts of communication – but with certain encoding and decoding options absent or limited. For example one can through video conferencing engage in synchronous interpersonal and small group communication, but certain important meaning-generated, non-verbal communication codes such as gaze behaviour, kinesics, facial expression, gestures, proxemics and posture (Mersham & Skinner, 1999, pp.18-28), are only partly accessible or not at all to parties in the interaction. Finally, the matrix for synchronous and asynchronous communication interfaces is considerably expanded.

Clearly, E-learning contains elements of each of the above types or contexts of communication.

(We have not included extrapersonal communication, which is communication that takes place between a human, and an animal or object, as we are focusing on human-to-human communication. There is however scope in e-learning to specifically incorporate human computer interaction, for instance, or interaction with various interfaces, including print.)

Global context

Overview

The model signals that the global context needs to be recognized and has an important impact in the way we consider e-learning. Open and Distance Learning is growing exponentially in the EU and United States, with 40-60% of schools (in the USA) offering traditional courses also offering online courses and programmes. Growth in e-learning is at 25% per year. (Beldarrain, 2006, and Simonson, 2006, citing Sloan Consortium report)

The concept of Open Educational Resources (OER), an initiative from MIT, echoed in the EU Lisbon Agreement, predicates lifelong, flexible learning. A special MIT committee concluded that for the advanced level education at MIT 'distance education was likely to be complicated, highly competitive and unlikely to make money'. MIT opted for Open Courseware (OCW) as a publishing venture, not teaching at a distance (in Mulder, 2006, p.1)

The OER movement is largely based on four principles:

- (i) encouraging mass ownership rather than elitism;
- ii) acknowledging the inherent capability to self-organise;
- iii) enlisting amateurs as producers of content; and
- iv) promoting collaboration for the common good (Kanwar 2007).

Open and distance/ e-learning offers a variety of features - flexibility in the form of study at any level, using courses to gain qualifications, to top up, extend, transfer existing qualifications, for professional development, for personal interest, or to test suitability for university education. It offers 24-hour access to individualized courses, easy admission because of the lack of prerequisites, affordability, with increasing moves to make the course materials free of charge, and ability to study from any geographical location. It also offers recognition of and credit for prior learning.

This change in mission and method of delivery has led to a plethora of providers springing up everywhere. Acknowledgement of formal and informal learning has added the workplace as a provider of learning and many large corporations have initiated their own centres of learning.

Despite the global movement towards open and flexible learning, there are still monetary and political constraints, mainly in the developing countries.

National context

E-learning is an enabler of distance delivery within the national network of providers.

The same features and collaboration possibilities mentioned above under global context, apply at the national level – flexibility, access, portability, partnering, stair-casing, interoperability etc. are all issues that arise at a national level.

Increasingly, institutions are becoming providers of education across borders, not only globally, but also within their own borders. These bring a raft of new considerations such as amount of income generated from international students, effect of fluctuation in currencies, language proficiency of the learner, value for money in the learning provided as well as cultural differences, amongst others, in approaches to learning. The national context needs to be examined carefully since government policy on the provision of education impacts upon both national delivery and delivery by nationally based organisations to international students based in foreign geographies.

Organizational context

At the organizational level other factors come into play. The organisation's policy, role in the sector, the cost of development, maintenance, management, modification, control, monitoring of standards in the delivery of course materials, and return on investment become important.

An organization also needs effective e-learning teams, instructional designers, administrators, technical expertise, effective, skilled lecturers and student management systems. It needs the most appropriate and sustainable solution in terms of its own role in the overarching context. as well as a long-term strategy of instructional approach.

The prevailing perceptions around e learning, although also applicable to the national and global context, may be most appropriate at organisational level as this is where the solutions have to be hammered out.

The perceptions are that distance / e- learning is

- Harder for students
- More time-consuming for lecturers
- More expensive

- Harder to evaluate
- Dependent on effective design

And any number of additional factors may emerge. (Grimwood, 2006)

Although collaboration and other possibilities exist, practice tells us that there are still many institutional differences- in policy, strategy, resources, tools, etc which suggest that there are still many organizational obstacles to overcome if these institutions are to send clear, unified messages to the students via course materials, especially jointly.

Trends

While we are still grappling with issues in face to face, blended and e-learning, a new model is emerging which challenges us to shift our paradigms regarding education.

Open educational resources and Lifelong Open and flexible learning

The introduction of open educational resources (OER) and Lifelong Open and Flexible (LOF) learning will impact tremendously on traditional learning approaches and delivery.

Proponents see freely available content as empowering learners to study on their own in an open and flexible learning environment, with no reference or recourse to a teacher, a classroom or educational institution, only requiring 'learner-centred content design instead of traditional teacher-centred content approach.' (Mulder, 2006, p.3)

Lifelong Open and Flexible (LOF) learning is seen as a successor to the ODL label, and because open and distance learning institutions have traditionally targeted the lifelong learners, and provide a model for this kind of delivery, they are regarded as being in the best position to provide these offerings. (Mulder, 2006, p.3)

The EU considers OER a 'key for a successful transition to a knowledge-based economy and society, ... significantly raising and widening participation in higher education, in particular in lifelong learning context.' (Mulder, 2006, p.1)

In the Lisbon Strategy, lifelong learning is seen as crucial to the EU becoming a 'knowledge-based economy as well as a quality, cohesive and inclusive knowledge based economy. Lifelong learning measures are perceived to lead to growth of participation in higher education, leading to better jobs, and education is seen as an integral part of our social model embodying and transmitting values such as equality and tolerance.' (in Mulder, 2006, p.2)

It is also expected to have a positive effect on health, crime, and quality of life. (in Mulder, 2006 p.2).

The European Commission has apparently expressed concern regarding the progress that universities show in this respect. They say that universities seem to be failing to address the lifelong learning agenda and substantially increase participation in their educational programmes. Universities are accused of offering the same courses to the same age groups and not really open to other types of learning and learner groups. The trend towards a different model is part of the Modernization agenda for Europe's universities. (Van Dorp et al. 2006, in Mulder, 2006, p3)

Wikiversity

Several initiatives have already flowed from OER and LOF learning, including the Wikiversity. The concept of a meta-university at this stage does not foresee replacing the residential universities, but enabling them.(URL Wikiversity) (Vest, 2006, in Mulder, 2006, p8.)

New technologies

New technologies will constantly offer new methods to be employed for educational purposes, and change the pedagogy and dynamics of delivery in e-learning, thus requiring constant reconsideration of these issues. New social media, such as podcasting or RSS feeds 'push' information to the learner, and don't require the student to actively search for information. Blogs and wikis provide more learner control (Beldarrain, 2006, pp.139, 140, 142).

Personalised courses

Some universities are already offering personalised courses where students can access their course materials in a format suited to their learning style (Royal Roads University in Canada)

Formal and informal learning

Recognition of both formal and informal learning, and the ability to formalize the informal learning via technologies and lifelong learning vehicles is also transforming the way learning is perceived and delivered. The workplace especially, is able to formalize informal learning.

Conclusion

Applying the communication model to e-learning is not a magic formula or solution to the issues we face in the delivery of e learning, blended or distance learning.

However, we hope to show that any form of delivery needs to be based on a firm understanding of authentic communication. We need to refer to the model to check our role as sender, to check who and what constitutes the recipient to understand what form of communication we are embarking on. McLuhan's insight that the 'the medium is the message' holds true.

Research shows that in many cases we as senders are still clinging to traditional assumptions regarding learning, and not addressing the true recipients or fully taking cognizance of their background. In our model we recognize this aspect as the autobiographical circumstances and sociocultural circumstances of the communication participant.

In terms of terminology, perhaps we need to include or revert to the terminology used in communication contexts, to truly understand what it is we are trying to achieve in our interactions with our learners, and to shape our messages and choose our media and codes accordingly.

'Educationally, institutions and trainers need to ensure that technology genuinely enhances the learning experience, rather than simply being a whiz-bang end in itself.'
(Dark, 2006, p3)

At the organizational level the debate suggests collaboration, being part of a network of providers, allowing for mobility, cross-crediting, stair-casing, etc. The reality is that the communication model suggests huge differences in perceptions, organizational culture, business outcomes, etc. which have not been fully understood.

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