

# THE SOCIAL IMPACT OF ON-LINE LEARNING

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## **Abstract**

*Much has been said, resources spent and anguish risen over the development of on-line learning environments. Many researchers have delved into the pedagogies underpinning on-line courses. Other researchers have examined the academic results of students who have undertaken on-line courses compared to those who have taken the same course conducted in a more traditional approach. There seems to be little research into the social impact of on-line learning environments on those who participate in these courses. This paper examines the current literature on the social impact of this new learning environment and raises questions for further research. The author proposes that a study on not just the participants in on-line learning needs to be addressed, but the whole community - the participants and their families, the delivers, and the course administrators.*

*This paper has grown out of a presentation the author gave to a group of people (teachers, students, managers and content developers) at an Office of Technical and Further Education (OTFE) seminar in Melbourne May 1999.*

## **Keywords**

On-line learning, social impact, virtual community

## **Introduction**

Learning is context and situation-specific. On-line learning provides a materials-based educational experience, which means that although it can be a materials-rich and stimulating learning situation, it can also be a socially impoverished and lonely learning situation. Which it is for the learners will in part depend on another important construct, the learning style preference of the learner (Gardner 1993). Some learners will undoubtedly thrive in the new liberating on-line learning situation, while others will flounder (Lynch & Bishop 1998). Often the outcome depends on their pre-conceived conceptions of how, when and where learning takes place. This new learning situation affects many of our new age learners - it can impact of their life, the life of their teachers, their families, the community and the institution that is delivering the content to be learnt.

Throughout this paper questions are posed, some are answered, some act as a catalyst for others, while others are left unanswered. Hopefully all stimulate thought into area of research that is vital to the success of teaching and learning in the on-line or virtual environment that is here to stay.

## **Some questions**

Webster's dictionary lists the meaning of social as 'relating to individuals or groups of people'; the Macquarie dictionary's definition for social is 'pertaining to, devoted to, or characterised by friendly companionship or relations; living, or disposed to live, in companionship with others or in a community, rather than in isolation'. Encapsulating these definitions within the framework of an on-line learning environment creates a

number of areas for research. Some research has posed numerous questions that can be associated with the social impact on-line learning is having on our society. Some of the questions are:

- Do the new electronic technologies offer novel venues for reaching out to a broader audience?
- Do the new technologies come with their own embedded social features?
- What is the role of student interaction in the learning process?
- What are the implications for teaching - the switching from instructor based learning to computer mediated learning.
- How will learning in an on-line environment effect the building of group cohesion and solidarity?
- How does on-line learning in the home, workplace or community location effect the 'non-member'?
- Who are the disadvantaged, and who are the advantaged?
- What are the new, and possibly out of norm, person and social skills needed to be an effective on-line participant - student or teacher?
- Is being connected encouraging disconnection?
- Are we losing the ability to choose the way we learn?
- what is the effect this environment has on the way the participants learn, live, react to their on and off-line surroundings,
- How do the participants communicate with others in the same environment and participate in the environment itself.

## **The on-line learning environment**

Van Vliet & Burgess in Fernback and Thomspson (1995) are cited as stating that communities contain the following elements: social interaction, a shared value system, and a shared symbol system. These three elements underlie much of the research into on-line learning communities

Researchers such as Meyrowitz believe that the identity and cohesion of groups is fostered by members who are 'isolated together'. The author feels that with the advent of electronic communications learners are more likely to be members of virtual communities who are 'together through isolation'.

Whether learning is on-line or not, the process of establishing a sense of a community of learners is a challenge in any classroom. The benefits of belonging to the community, and in this instance, the virtual community need to outweigh the costs. Rheingold (1993) refers to these benefits as the 'collective goods' (knowledge capital, social capital and communion), for the community to work, these have to be more valuable than the technical difficulties encountered, costs in times, or monetary costs.

There is quite a disagreement amongst researchers regarding social isolation. Thomson, Straubhaar & Bolyard (1998) support other researchers' apprehensions of the value of electronic communities that on-line learning is 'more likely to produce social isolation than connectivity'. Whereas research conducted by Rheingold and Kelly to name a few, say the exact opposite.

What are some of the overheads or costs for participants in an on-line learning environment? How does this environment impact on the student and teacher? I'd like to use the following scenario as a metaphor for the social impact of on-line learning.

Along with the dishwasher came.....  
the need to earn the money to pay for the machine. And for the electricity or gas. And for the automatic water delivery and disposal systems. And now also for the various environmental damages resulting from the machine's manufacture, the production of energy to run it, and the discharge of its detergents. But that is not all. The washing machine changes the sort of clothes we buy, preparing the way for new fabrics requiring special care. It modifies standards of whiteness, of sterility, of neatness and social presentability. It encourages additional washings at the slightest whim. It requires a significant chunk of floor space in the home, accounting for a slice of the mortgage. There is no end to such outward-rippling effects.

(Talbot 1996)

Another consideration is the place of learning - where is the student when they are participating in the on-line subject? A subject or course that is delivered in an on-line environment may have different surroundings each time the student (or teacher) participates in the class; a student could be in their lounge room, their office, the library, on-campus, or sitting beside a waterfall hoping the batteries in the mobile phone and laptop don't die.

A useful study could perhaps be developed from a framework built upon Van Vliet and Burgess' 'three elements of on-line community'.

### *Social interaction*

Some research criticises computer-mediated communities in that they are unable to 'foster substantive and genuine personal relationships .....and unable to produce legitimate social bonding '(Thomson et al 1998). Rheingold is a great believer, and a long time user, of virtual communities. He would have a field day with Thomson's comments. Rheingold has believed since 1985, that computer communities, 'virtual communities', are real and at times it is hard to distinguish whether he 'heard' something in real life or from the 'Net. '.my virtual community also inhibits my life', (Rheingold 1994). This is not an adverse comment, but one that shows how engaging the on-line environment can be and the impact that it has on one's social context. He claims that virtual communities are 'a new kind of social habitation'. Informal education occurs for every person throughout their life-time, it is unorganised, unintentional and unsystematic and is dependant on life-style and life-chance (Lynch & Bishop, 1998). It is here that most learning takes place (Perelman 1993). If we could harness the power of informal learning into on-line learning, a new era of lifelong learning would evolve and be successful.

Placing 'social habitation' in a formal learning context and to what some may perceive as an extreme view, Perelman believes 'the first major social impact of hyperlearning revolution is to make schooling obsolete..... expertise and learning are immediately available "on demand" or "just in time"'. Gone are the days where once a week, and in the same surroundings each week, a learner made contact with fellow classmates and the teacher. In an on-line learning environment the time of connection to the on-line materials may be anytime of the day or night, with students who can be located anywhere. Through the use of synchronous and asynchronous communication technologies students can converse, collaborate, and be involved in intellectual discourse at unscheduled times through a subject or course's life.

Collaborative learning is deemed to be an effective teaching strategy, and one that adapts readily to learning in an on-line environment. It is defined as 'a learning process that emphasizes group or cooperative efforts among faculty and students.' (Hiltz 1995). One of the key features of collaborative learning is active participation and interaction on the part of both students and instructors. The members of the environment need to socially interact, cooperate with each other (?), and evaluate the course of action. These actions assist in the building of the knowledge base of the group. This social interaction can be facilitated regardless of the physical location, or other constraints of the participants through the use of telecommunications and electronic networks.

Levin (1995) through his research into the educational use of electronic networks, has found that there are a number of similar guidelines for conducting networked-based educational activities. He presents five general features found during his research. *Structure*, a social structure is important for supporting network interactions. The social structure maybe totally different to the parallel in a face-to-face situation and is determined in part by the goals and constraints of the participants, and partly by the network itself. *Process*, network activity is episodic with an initiation phase, activity phase and a wrap-up phase. With each phase the role of the learner changes, a change the learner may not be aware of which could result in disappointment in their expectations of the timing or nature of the interactions. *Mediation*, the importance of active, effective moderators who initiate and sustain the interaction. Another important role of a moderator is to know when to keep quite, and when to step in. Collins & Berge (1997) have produced a very valuable guide in how to moderate for a successful on-line discussion area. *Community building*, to build a successful on-line community, takes the involvement of all participants. Each participant needs to perceive a benefit to make the costs involved worthwhile. Whatever the learner gains from the community cannot be overshadowed by the effort they are required to put in. Rheingold reinforces this, as the benefits need to outweigh the costs, there needs to be a balance. *Institutional support* needs to embed educational network interaction within an institutional structure that will support and sustain the interaction over time.

On-line learning should empower(?) students, they no longer have everything handed to them, they become part of the construction of the knowledge for the subject. It becomes their responsibility to interact with fellow members and make the community flourish and prosper. Rand is encouraging but brings to our attention a warning 'Each step must be watched over to make sure that the goal is still the empowerment of humans and not the empowerment of machines. A constant vigil is required, but it is worth every minute of it.

In Campbell's keynote address at the 1998 IRISS Conference she states that communication technologies have the potential to bring about new social relations. But she warns us of the potential problems as well as opportunities. Her main concern is the development of a divided society, the information rich and the information poor. Luke (1993) agrees with Campbell that this expansion of technology will create a 'new class' of information-elite, which will be unreachable to the information poor.

### *A shared value system*

The community needs to empower and protect its members (Gomes 1997). A successful on-line community will have a balance between the two. Ideally, the virtual community needs to respect free speech, individualism, equality and the same or similar interests of its members.

Students who have considered themselves outcasts, in a minority, or harassed because of social biases, are now able to 'be' whoever they wish, to portray themselves imaginatively, or not to be portrayed at all. It is up to them. This might be a forward step in permitting one to choose their own outward appearance. The ability to experiment with ones identity might have significant impact on an individual's personal and social life. Rheingold reminds us that the community is a place where 'we cannot see one another...gender, age, national origin, and physical appearance are not apparent unless a person wants to make such characteristics public' (Rheingold 1994). This is exemplified in the 1993 classic cartoon published in *The New Yorker* (Figure 1), and by Turkle, 'making a pass at a robot....you can never be too sure who, or what, you are communicating with'; no-one knows who your are, what you are, what you look like, your beliefs, ambitions or anything else, unless you share it with them.






**Figure 1:** *On the Internet, no-one knows you are a dog* .*The New Yorker* (1993)

When the shared values of the members of the participant in the on-line environment are upset, distorted or misunderstood the effect is real, and may be comforting, beneficial, but in other cases devastating or a violation of ones own social being. 'You can't kiss anybody and nobody can punch you in the nose, but a lot can happen within these boundaries (Rheingold 1994).

### **A shared symbol system**

In on-line communication communities there is a common language which is based on icons and abbreviations. This language has evolved over a number of years, and

dates back to the birth of the Internet. Pardo (1998) proposes that this socially acceptable language has been formed from the need and desire for a global language and with this has stemmed a return to the use of icons. The icons are seen as a way to dispense with long phrases and repetitive words creating an alternative system for global understanding. Textual and graphical icons may express such concepts as common emotions or directions. Some common icons are illustrated in Figure 2.

Icons		Textual cues	
HOME		Laughter	hehe
UP		Rolling on the floor laughing	rofl
BACK		By the way	btw
		friendly	;-)

**Figure 2:** A sample of icons and textual cues

Users need to learn to express themselves with these textual cues or understand the iconicity of the on-line learning environment to become socially ept in the on-line learning environment itself. Reid (1991) states that without these textual cues the users would fail to constitute a community.

As early as 1984 writer William Gibson in his science fiction classic *Neuromancer* had visions of a graphical language, 'The Matrix: a world within a world, a graphic representation of the databanks of every computer in the human system; a consensual hallucination experience daily by billions of legitimate users....' (Gibson 1984). To the characters in *Neuromancer* survival is mastering the Matrix through the use of iconography and textual cues. For on-line learners, the stakes may not be as high, but the outcome - survival, is the same.

Herring sheds a different light on language, one that looks at emerging stereotypes of computer-mediated communications. She proposes that male users are primarily concerned with information, and female users primarily concerned with the promotion and maintenance of interpersonal relationships (Herring 1996).

*Flaming* is a common way to show participants that a user is displeased with something said. It can occur when someone has over stepped the social rules, known as *netiquette*, or when heated dialogue occurs. Once again textual cues play as an important role in the discourse as the words themselves. But if you do not understand the textual cues such as those in Figure 2, or the use of uppercase to add emphasis to words, for example YOU SAID WHAT, or \_GET REAL\_, the receiver is isolated, or should it be insulated, from the strong non-verbal implications of the conversation.

If you don't know the language, you may feel cut off from the on-line learning community or may even be unwilling to contribute to the discourse due to fear of non conformity or being cast as 'illiterate'. On-line iconography or textual cues, or even the absence of them, can also be used to harass, embarrass, enrage, insult or intimidate users of the on-line communication means. A problem that effects new users of on-line communication arises when they are unable to decode the

iconographic and other non-textual cues with the result that they don't even know what is happening around them.

Robinson (1999) agrees with Keisler, Siegel & McGuire (1984) inasmuch that 'Technology robs students of traditional non-verbal cues that provide social relationship cues. Everything becomes more explicit and is often foreign.' With training and persistence these non-verbal cues can be transposed through the use of icons and textual cues resulting in the technology no longer robbing the user of social interaction, with even the possibility of enriching the experience.

On-line dialogue, whether one-to-one, or one-to-many or many-to-many, can be intimidating for the uninitiated, the quiet or the new user. Participating in the on-line discussions is a skill required by all users of on-line learning, and one that can effect the user's own character. If you do not participate in these conversations, you do not exist as no one knows you are there, '...the sign of your existence is your active participation' (Kelly 1996). The problem of no

one knowing you are there is a problem where the teacher or moderator of the discussion needs to take on a new and different role than that commonly found in the face-to-face classroom. Collins & Berge (1997) have written extensively on moderating on-line discussion areas, and ask 'where are they [the teachers] to learn the necessary skills for their online work?' It is not only the teachers, but the students and administrators as well who need to learn these new skills, and what is the impact this has on their work, home and social life?

Combine the use of icons, textual cues, time to compose and reflect, together with the freedom to extend beyond the boundaries of the face-to-face traditional classroom, the discourse can be heightened, and the impact of the technology on the user becomes inconsequential and accepted.

### *Non-volatile conversations*

When we talk in real life to students, lecturers or our peers, there is no permanent record of the conversation - the words may be remembered and pondered, but they are not recorded. There is a difference with on-line conversations and this difference has an important impact on what we say, when we say it, who says it, and how we use it. On-line communications can be recorded: Email has its own management system, the user chooses whether to delete a message or not; ICQ often has a history file which can be saved or deleted; threaded discussion areas have the posted messages retained until deleted by the moderator. The recording of these conversations makes them retrievable and the speaker accountable for what they said. This could be a deterrent for users to contribute to a discussion. Some users may *lurk*, never making comment, but reading everything. Other users may sit back and follow the discussion, and then when they have formulated their 'informed' opinion they contribute to the discussion - this could be days after the conversation commenced.

When a user subscribes to a mailing list (listserv), they innocently assume that the content of the list is for the eyes only of the subscribers. Often a search on keywords can extract the dialogue from a list, and made available to non-subscribers. The

privacy and confidentiality of the conversation is diminished, and the words, thoughts, property of the text is not longer restricted to that of the subscribers to the list. If on-line users were commonly aware of this would it restrict the dialogue? Should measures be taken to ensure the privacy of the conversation?

## **Anecdotes**

Following are a few anecdotes I have collected from my archives. Each stimulates thought into the impact the on-line learning environment has had on the learner, their teacher, and their family.

1. I chose this institution because I didn't have to attend class on a regular basis, or even see anyone.
2. I can now put the kids down for a nap and do some lessons before they wake up.
3. Wow, the notes are on line and I can ask you a question when I want and not have to wait until the next class.
4. You can do the course as long as the kids are picked up and my dinner is on the table on time every night.

## **Conclusion**

There is no better time than now to look closely at the ways our tools are influencing our social relationships, from e-mail to chat rooms to cell phones. We need to begin to answer the vexing questions posed by technologies' double-edged impacts: Who will benefit? What are the downsides? How will the use of the new technology effect community, health, psychological well-being, the distribution of wealth, the environment? How can new technologies be misused, and what protections or remedies might be available to deal with negative impacts? Where are the points of leverage in influencing the way technologies are designed, deployed, marketed, regulated?

(Rheingold 1999)

'When everyone's online, the technologies will sink into the background and that's when the real effects of a communication technology start to take place. We can compare ourselves to the first television owners of the early '50s who had no idea what an impact their expensive box would have.' (Kelly 1996) The TV has been referred to as 'the magic window on the world' (Henry and Pavese in (Gregory 1999)), a controversial device that would change the world and have an incredible impact on society. Conceptually, what social impact will the ability to learn on-line have on tomorrow's communities? An examination of the body of knowledge into research on the social impact of television and radio could shed some light into further research on the social impact of on-line learning.



The teacher is central to the on-line learning environment. For students to have a successful on-line learning experience the teachers, in general will need to change. These changes may impact of the teacher's beliefs, They will required new skills to prepare and deliver the learning materials in a new and maybe an unfriendly medium. The teacher may need to have a change in focus to student-centred learning rather than the traditional teacher-centered learning. A change in mind set, one that needs to look at pedagogies that support learning in an on-line environment. The opportunity for teachers to interact with peers to understand , explore and develop skills in an on-line environment. Just like students, the impact on teacher as well as support services need to be examined.

If following the recommendations and views of recognised authorities, such as Collins & Berge, and Rheingold, on-line discourse together with interactivity within a subject's learning environment, the social impact on the learner, the deliver, and the institute should be welcomed, and non-threatening.

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