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ROLE OF SOCIAL MEDIA IN LEARNING: Benefits and Drawbacks-How Social Presence Theory Explains Conflicting Findings

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ASTRACT

Social media play a powerful role in education to bring initially the outsider to become an accepted member inside an academic group that develops to become a community of learners. This role essentially allows an incoming student to post up images and ideas gradually and in small steps safely to produce an online identity which is agreeable to others. Many research studies now support such a role in the educative process. After such social presence is achieved then any role quickly becomes a distraction from engaging in academic collaborative learning transactions. Emerging research studies are now revealing these mixed results associated with social media (notably Face book) in education-particularly the drawbacks that time expended on social media leads to weaker academic achievements.

In this study the role of social media is opened up using reference to social presence, and other forms of virtual presence, that helps to explain why the benefits of social media are limited to the early stage of a learning cycle, and in later important learning stages that social media should be sidelined into a separate forum for support and counseling, away from the main academic forum where learning takes place. This presentation explains why Face book has shown improved learning was achieved in some studies, and less learning achieved in other studies.

Keywords: Drawbacks, Social Presence, How Social Presence Theory, learning.

INTRODUCTION

Social media can play an important role in education. Of great importance is the role to create trust among the group. The initial face-to-face element in online education may be physical in a classroom together or can involve social media which has a photograph of the student's face clearly. One purpose for this may be to establish trust among the participants - just as in witnesses appearing physically inside a courtroom to take an oath and give evidence.

In this sense no photograph on a social media website or an unclear hidden face image may impede the formation of trust. A photograph is usually trusted since it is presumed the physical person attended the place to get the photograph taken - although photo technology has eroded this somewhat. A person may physically present himself at a faraway courtroom and subsequently use telephone or video technology to transfer trust to the required courtroom from one place to another.

Social media provide the mechanics of conveying and for constructing Social Presence. The shy introvert student can look through the web pages of other students, and then post up tentative own personal information; this-or-that photograph, these 'likes' and those music favourites.

The personal data can be posted up gradually to test out through trial-and-error to explore how acceptable the data are to others (and immediately withdrawn if sensed to be outside the social norms of the group). Step-by-step in small safe steps, the introvert can thereby build up a socially-accepted online persona, through which she can interact with others online. In this way, the social media website can offer to the self-conscious outsider a mechanism towards becoming accepted by the community online. Once this has been achieved the group can move on together as a community later to engage group collaborative learning tasks.

The Transactional Distance Model - a four-stage Kolb-like cycle - can serve as a practical scaffold onto which Social Presence Theory can be positioned. The resulting model can then be used to explain why some empirical studies show that Facebook is associated with better quality learning while other studies show the opposite. It is useful to understand Transactional Distance and Social Presence here, and a brief introduction to each is covered in turn in a METHODS Section, before looking at how well they explain the findings on social media in the next RESULTS Section.

Social Presence through social media plays a supporting comforting non-academic role in the early stages to reduce anxiety and ease the student into the academic forum of ideas. However one study has found the social aspects can be negative towards future learning (Cunningham, Corprew & Becker, 2009). Moreover in an online environment using multimedia, Herrington & Oliver (1999) have found much less lower-order discussion and less social chat were correlated with more achieved learning.

Additionally in an objective controlled study, Boling & Robinson (1999, p.170) found that there was some considerable trade-off (an inverse correlation) between distance students' satisfaction with social aspects of the course and the actual quality of learning achieved.

Tutors and the students themselves should be aware of the effectiveness of Social Presence and its localisation to the initial stage of the learning process. Social Presence integrates the outsider into the target community, and there serves to reduce anxiety.

In an extensive study, the number of forum postings, according to data from 3600 courses over 545 colleges reported by Young (2012), was 25 /term after self-introductions were required and posted, and only 9.5/term where no self-introductions were made. A lack in student engagement has been attributed by Herrington, Reeves & Oliver (2006) to de-contextualisation. They argue that the student's own perceptions must be brought in and Social Presence should be established early on for the group to challenge collaborative learning tasks later on together in a team. Thus, there is a meaningful role for Face book and social media in education, but this is limited to within only the initial early stage.

The correlation between social media and lower achieved learning is not yet determined as causative : in the ensuing confusion, some supporters of social media suggest that those who are weaker academically and who do not put in time and effort into studying tend to spend more of their free-time on Facebook and other socialising.

METHODS

The need for social presence is well recognised in online education, and even in conventional face-to-face contiguous education an online presence is considered by students to be an essential part of being an accepted group member.

Face book and other social media-including instant connectivity through Twitter, Instagram, Chat and other software applications - are currently used by almost all students, as well as by teachers and their institutions.

The college administration may use Facebook to publicise itself to reach potential prospective new students, to announce events, awards, and even employment vacancies.

Teachers may use it to rally students and to publicise lessons in a media that is familiar to their students, while students may use it to share experiences with each other from both inside and outside the classroom.

In all cases, social media act to establish and foster connectivity in the education world. The problems begin to surface when the cooperative exchanges on social media fail to give way to academic collaboration.

The Transactional Distance Model developed in online distance education, and Social Presence Theory offer a rational explanation for the conflicting data on the use of Facebook and other social media in education. Both of these are related to and underpinned by Otto Peters' Transactional Distance Theory, Peter Grogono's Conversation Theory and Diane Laurillard's Conversation Model, George Siemens' Connectivism Theory, and Social Presence Theory. Briefly, the Transactional Distance Model (involving imposed Structure S and educative Dialogue D - shown in Figure 1. below) sets out four stages in a learning cycle;- first a cooperative sharing stage, second a collaborative rationalisation, third a collaborative disjunctive reasoning stage, followed by a cooperative experiential testing-out stage.

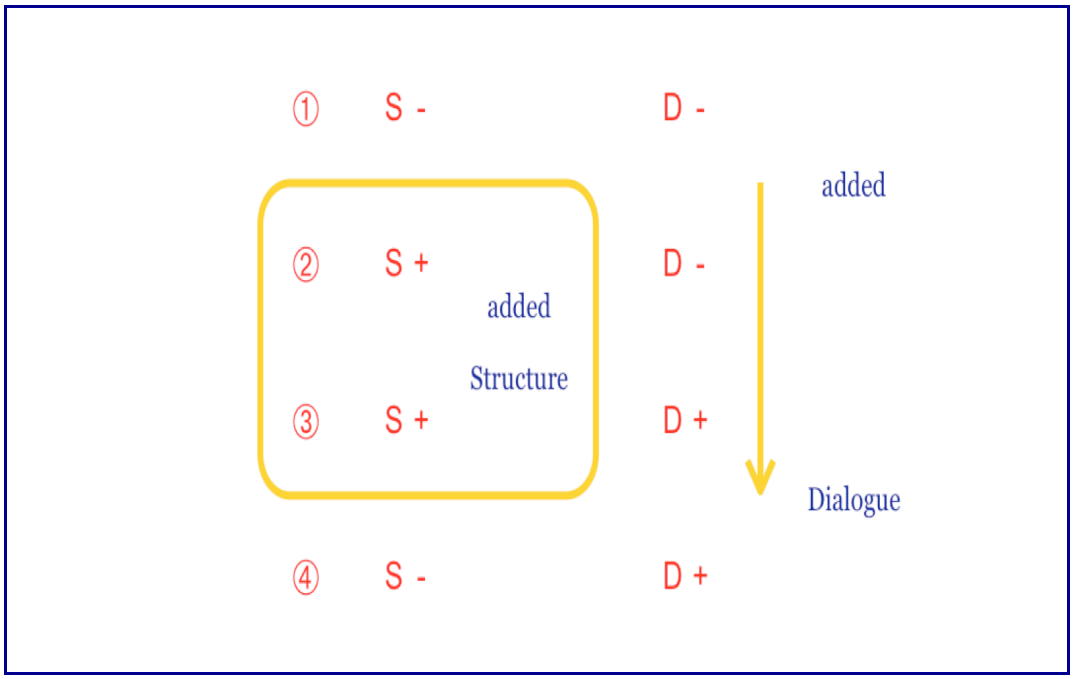

Figure 1.
The four stages of the Transactional Distance Model

In Stage 1, learning occurs in a group cooperatively, gathering and sharing information and fostering a learning community. Here synchronous-mode computer-mediated communications are best such as chat and conferencing. This Stage 1 can be characterised by self-introductions (as a prelude to being a source of content material to other students), brain-storming (limited at this Stage 1 to only accumulating new ideas, yet to be argued in Stage 2), involving divergent thinking to gather various different perceptions in order to explore and to frame each student's context, and helping each other as equals with projecting content especially in sharing personal experiences and past literature that has been read, which constitute old foundational knowledge. The transactional distance initially is at a maximum (S- D-) with no imposed structure and no educative dialogue.

In Stage 2, lateral-thinking (creative thinking around the problem) is used to generate and develop metaphors (an idea or conception that is basically dissimilar but formed from noting similarities between the initial information and the new concept) or new ideas, and these supported by argument.

Students discuss for example their own problem they have found which has brought them to participate in the current course, and then argue to identify possible solutions to each other's problems.

Creative thinking here may derive from combining seemingly disparate parts especially ideas contributed from others in different contexts into a new synergic whole.

The teacher is still keeping academically at a distance away from the content under discussion, while the students are making their efforts to achieve some pre-set goal (to present own problem and reasons for engaging the current course, for example) which gives structure to their discussions (S+D-).

Some time is needed for reflection here, and asynchronous modes such as email and a bulletin board are effective.

In Stage 3, the tutor engages the students with guiding comments in what Holmberg (1983) has described as a guided didactic conversation, helping the students achieve the course structural requirements of understanding the general concepts to be learnt (S+ D+).

The tutor poses questions and students defend their formulations. This Stage 3 is characterised by hypotheses testing and logical straight-forward thinking (termed 'vertical' thinking in contrast to 'lateral' thinking) associated with problem-solving, and is collaborative. Asynchronous mode is ideal here, to allow sufficient time for cognitive connections and co-construction of new non-foundational knowledge.

In Stage 4, the final stage, the course requirements have largely been already achieved and there is no structure left, except to disseminate the achieved mental ideas and test them out in real-life.

This Stage 4 is characterised by experiential learning and is cooperative, and at minimum transactional distance (S- D+), in synchronous mode, with no imposed structure and with educative dialogue to assist the student to reflect on her studies.

These four stages of the Transactional Distance Model are summarised and shown in Figure 1. Stage 1 (S- D-) is at maximum transactional distance for the student, Stage 2 (S+ D-) is closer, and the student engages institutionally imposed structure, Stage 3 (S+ D+) is nearer to achieving the learning task, when some educative dialogue is now involved to help the student consider all possible alternatives, and Stage 4 is closest at minimum transactional distance where the student has adopted new knowledge and is testing this out to finally learn.

Findings from a meta-analysis of tele presence for education can be easily visualized using this four-stage model as a framework showing the learning process.

Social Presence Theory draws from a misanalysis of virtual presence in education that suggests only six forms of presence are essential and occur in-turn purposefully within the educative process;

- ✓ **Institutional Presence,**
- ✓ **Learner Presence,**
- ✓ **Cognitive Presence,**
- ✓ **Social Presence,**

- ✓ **Transactional Presence, and**
- ✓ **Teaching Presence. The six forms of presence are positioned (shown in**

Figure 2. below) accordingly within the four-stage Transactional Distance Model process to facilitate learning.

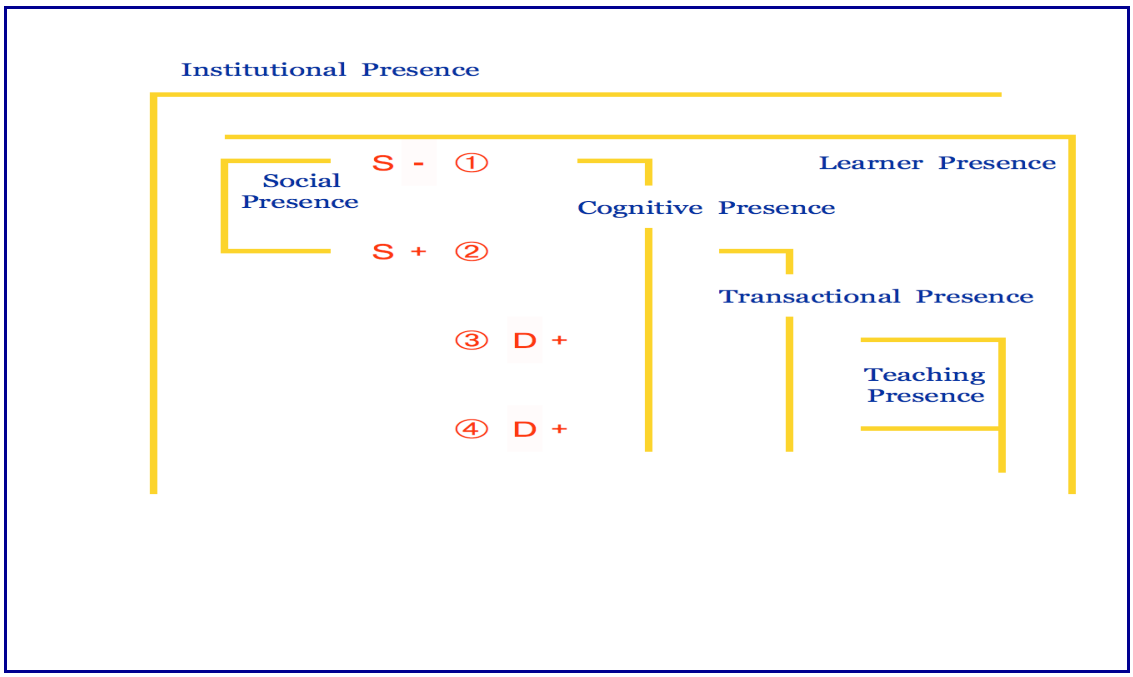

Figure 2.
The position of Social Presence with the Educative Process

The lines in Figure 2. try to show the coverage of each form of Presence occurring throughout the four Stages 1-4 of learning. Institutional Presence covers over the top of the learning process including the Teaching Presence, but not totally enveloping the student who may have extrinsic activities and use non-academic support facilities including family support - so the institutional support along the top of this diagram stops short of fully covering the Learner Presence.

LEARNER PRESENCE THEN ENVELOPS EVERYTHING IN THE LEARNING PROCESS

There are then two distinct forms - Social Presence and Cognitive Presence - becoming exercised by the student, and these two have different functions.

Social Presence conveys the party face or human side of the student to others, to reduce barriers of physical isolation, to share frustrations with getting the technology to work, to reduce state anxieties and for some students to reduce trait anxieties too, to help bring about initial learning achievements, and develop integrative motivation to learn.

Holding hands with group members here can ease the transition into Stage 2 collaborative learning where students must question each other and themselves, and this can be stressful.

The following Stage 3 collaborative learning is more difficult in that individual ideas are suspended, subjectivity is suspended, and objective disjunctive reasoning is needed - so that Social Presence has no educative role.

Any personal distractions or flashbacks to the early social chat is not academic to the task at hand and will be shunted away to social support groups off-campus. Indeed, Social Presence can lead to lower academic grades (Cunningham, Corprew & Becker, 2009): negative friends have been defined as those that distract a student away from the collaborative strategies needed for learning, and hold back a student from academic future achievements.

Cognitive Presence also begins in Stage 1 to let others know where you are coming from cognitively, your reasons for taking the course, your relevant prior knowledge that you are bringing to the learning process, knowledge you want to pool with others to build some form of shared basis, your preferred ways of learning, and this Cognitive Presence continues throughout the course as each student continues to participate in sharing and co-building knowledge.

Some interactional skills are needed in the collaborative learning process as outlined in collaborative scaffolds, and Transactional Presence then becomes important from early on in Stage 2 collaborative learning.

Transactional Presence skills may be synonymous with the critical thinking skills especially in Stage 3 of disjunctive reasoning and problem solving, and these skills must be demonstrated for public assessment of learning in cooperative Stage 4 where one also learns oneself through experiential learning.

So Transactional Presence begins in Stage 2 and continues through Stage 3 and Stage 4 in this figure. Stage 3 and Stage 4 need guided conversation with a senior student or with a teacher - preferably with many expert teachers, and these stages are characterised by having educative Dialogue (where the earlier Stage 1 and Stage 2 did not).

These six forms are summarised in TABLE 1 below - see Kawachi (2013) for details. Here the important point is that social media serves to facilitate Social Presence within the initial Stage 1 without any Structure imposed by the administration and without any educative Dialogue from the teacher or from teaching materials, and carries the student into the Stage 2 academic forum where Structure begins.

At this time, social media and Social Presence have no further role to play in achieving learning - except as non-academic support and possibly counselling.

In any case the functions of social media are at this time best moved into an online chat-room, to leave the academic forum uncluttered and clear for academic collaborative interactions.

Table 1.

The Essential Kinds of *Presence* in Online Education

Definition	
institutional	**the overarching socio-cultural capital and academic reputation of the institution, its perceived fairness and opportunities, as well as its care and efficacy of contacts with the student**
learner	**the feelings received by others that suggest the student is at some designated place at some time, conveyed through mediated communications**
social	**a sense of camaraderie conveyed through mediated communications to others through sharing personal anecdotes, pictures, videos, audio and other media; connections suggesting shared interests, a fashionable lifestyle and friendliness**
cognitive	**the mental alertness of the student and awareness of others perceived (usually) by others, and carried by ideas and informed comments to the others through mediated communications**
transactional	**the perceived responsiveness and availability of the student to others, and feelings of connectedness received by others conveyed through mediated communications - not of only one interaction, but of sustained intra- related interactions with others**
teaching	**environmental feelings received by students that some desired and effective academic guidance is available and occurring to help them learn, through mediated communications -whether by one or more humans or machines- extending beyond the expected support**

RESULTS

There are no results here in terms of empirical findings when social media are avoided after the initial stage of constructing a social identity, to show that improved academic learning is achieved.

However the Transactional Distance Model has been extensively validated (Kawachi, 2005) in both online and face-to-face learning, and social presence has also been validated and even measured (Sood & Nevejan, 2012).

The findings of this discussion suggest that the tutor and students involved should limit the role of Social Presence to the initial Stage 1 only in the process of learning.

From Stage 2 onwards the collaborative learning forum should be kept uncluttered by social postings which could better be moved away to an online café or other more suitable space online.

Social Presence can be measured, and its variations can be followed. Social Presence should be defined as involving the actors rather than the acting, ie the 'who' dimension consists of the teacher presence (not teaching presence), learner presence (not learning presence), and other-students presence.

Some cognitive presence will then occur in the educative process to move the student from the initial Stage 1 through into the collaborative learning forum and other Stages 2-4 to achieve learning.

The results are here at best a hypothesis for why Face book and social media have been associated in some studies with improved engagement and in other studies with weaker learning. While learning requires engagement, it also does not follow that simply engaging will achieve learning - there needs to be effective cognitive reorganisation to bring about demonstrable learning. Given that Social Presence Theory can explain the conflicting outcomes using social media, further controlled studies are warranted.

Achieved through being sensitive to comments from others and sensitive to how others are at the same time building up their own identities. What is built is not so much a self-identity but a peer-negotiated acceptance. Any small misstep can be retracted and rebuilt to construct an online persona that paves the way forward for future interactions to foster and enable learning.

DISCUSSION

The general usage of social media by colleges may be related to the increases in older adults enrolling especially in open distance education. Older adults are well known to exhibit extrinsic social motivation to study (Kawachi, 2003),

In other words they are motivated by the desire for socialisation, rather than academic interest.Teachers and administrators use Face book and other social media to communicate with students administrative information such as forthcoming meetings or examinations. Students with mobile technologies can be contacted at any time or place. However most students already know details of upcoming examinations and these media offer a benefit only when there is an emergency (such as unexpected change in examination venue) and need to reach a large number of students cheaply.

Outsider perceptions of social media for augmentive and alternative communication can be high, but in reality they offer mainly a cost efficiency : administrators still need to get a response from each student and log this.

The efficiency of other technologies such as the iPad for enhancing communication is similarly over-rated by non-users (Allen, Jeans, Ball & Guarino, 2015).

Achieving added benefit from using social media technologies requires their use to be well integrated into the learning system.

SUGGESTIONS

Social media can ease the student transition into college life. New students can generally be expected demonstrate academic performative anxiety.

There is therefore a role for social media to support having fun, especially for younger students who may feel isolated and without integrative motivation. The role for fun here is to reduce performative anxiety, which in turn leads to the development of a community of learning.

Reduced performative anxiety allows for some achievement in learning. But in order for the student to move on to develop the instrumental motivations for deeper quality of learning as an independent learner or as a collaborative group learner.

This social integrative motivation with social media needs to sidelined or otherwise dispelled. Sometimes a teacher could manage this by giving measured personalised advice to the student - even going so far as to give negative comments perhaps by overly correcting slight misunderstandings to prevent the fossilisation of the learning process and the student being stuck in social media and Facebook.

Colleges -particularly open universities- report stubborn high drop-out rates that recently are tending to increase.

The increases over the past five-to-ten years in drop-out may be due to the increase in the numbers of marginal students not so well prepared for college studying.

There are data for example from the Open University of Malaysia that tutor interventions can reduce this early drop-out rate.

Such data suggest social media can help in the transition process to reduce the early drop-out rate among first-year students, but does not have any significant effect on the non-completion rate.

The suggested role of social media is likely related to the socialisation process and the development of Social Presence. Further research is warranted into the correlation between the amount and type of social media usage and student drop-out rates.

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