CHAPTER 5 CONCLUSION

Limitation

Relevance & Reliance

This study looks at Instructional Technology from a non-formal education standpoint. There is learning to be achieved even outside of the classroom. There are benefits to be attained from technological advances even beyond their obvious functions. But are these pursuits enough? Are there other relevant issues left out?

Technology is fine but by itself it is incomplete. Technology is merely the body. There is also the soul, which is not just creativity, but the ability to express it.

Dato' Professor Dr Khoo Kay Kim (email, January 27, 2004)

I have found at the end of this study, that Instructional Technology is more than just the science of controlling human learning. It is also the art of articulating the human experience of learning.

My study is all about Interpersonal Relationships (IR), Task Execution (TE), and how IR and TE can be affected by SMS communication. In simpler terms, it explores how technology can control human emotion and performance. To touch someone's heart. To evoke emotions, so primary and so powerful that you can control the outcome. Humans will always respond to their emotions. It is a given. If we can harness that surety, we can use it to our advantage. But if we can also understand and appreciate the reasons behind those emotions, we can be assured that our act of harnessing will be for the better good.

Unfortunately, this "softer" side was almost totally absent for the most part of my research analysis. Having wanted to be unquestionably "scientific" and "systematic" in my methodology, I kept strict adherence to only analyzing recorded hard evidence data, and avoided making judgemental opinions based on observations at all costs. Up to this point, this research paper has been purely factual and unbiased.

However, in order to provide relevance to the "humanistic" side of this study, I decided to lift the superficial limitations of analytical prose, and allow a certain level of reliance on "open interpretation" in this Conclusion chapter. Readers may find the content of Chapter 5 somewhat different in tone from the earlier chapters. This was done intentionally, and in the same spirit of the study intent – planting insights, provoking retrospection and facilitating Osmosis Learning.

Thus, perhaps readers may want to continue reading this closing chapter with a certain frame of mind... I suggest reading between the lines and embellishing the content with a dash of salt.

Self imposed bondage

Covert immersion offers immunity by default. Since nobody is aware of the researcher's intentions, none of the researcher's actions can be pinpointed as the catalyst for any occurrence. And thus, the researcher is free to roam amongst his subjects, observe every minute effect, and record his findings at leisure.

But despite this respite, I was constantly hounded by my own conscience.

I had chosen covert immersion as a methodology primarily because it guaranteed observation of participants' behaviour in their natural context. My study, although much smaller in scale, was not too different than that of the Discovery Channel scientists who go into the bush - to observe naturally existing behaviours within the natural environment in which they exist. The intent, and ultimate goal behind my study, was also similar - to provide educational insight for mankind.

But honourable intentions alone could not placate the impending conscience that haunted me throughout the six month study, and to a certain degree, still haunt me today. In any future research of similar nature, I would hesitate to encourage the covert-immersion method. Examining one's own interpersonal relationships through a microscope requires immense integrity, for which honest retrospection alone cannot provide. Research of this nature is definitely not for the weak hearted.

I did not foresee the side effects. I was hit by a ton of bricks. Like Dian Fossey (Apted, M., 1988), I became emotionally attached to my subjects, and philosophically addicted to the cause. The focus of my research, SMS communication effect on Interpersonal Relationships (IR) and Task Execution (TE), is in itself already imbibed with issues of human emotion. Thus, the method of data collection that I had chosen, immersing myself as an active participant in my own pseudo-experiment, gave me front row seats in experiencing the entire array of "SMS effects" that I was studying, some of which have long-lasting

irreversible consequences.

Wat do u want fm life? Nobody owes anybody. Think about that.. 04 11 03 / 22:26

U make ur own life. Win or lose. 05 11 03 / 07:34 Although this heavy emotional baggage caused substantial strain on my mental well-being, it did not impede my research per se. In fact, I found myself often standing back to evaluate my objectives. I constantly reminded myself of the ultimate goal – identifying SMS effects that improve IR and TE. I consciously tried to avoid getting side-tracked or shrouded by SMS dialogs that did not contribute to either improving IR or TE. I became extremely focused and determined in order to avoid "self-sabotage" (Sternberg, R.J., 1996). The steadfastness and drive I experienced throughout the duration eventually sunk in and became internalized. Many of the findings from my research are now more than just factual resolutions to me.

Thus, in conclusion, although I felt bonded in shackles throughout my involvement in this study, in the end, I feel enlightened. If there are constructive learning habits to be harvested from something as simple as an SMS, then there must be greater good in almost anything we do. Limitations only exist when we choose to see them.

Scope of case study

This research was carried out within a specifically chosen establishment, where its existing work environment was already imbibed with SMS communication. The focus of the research was specifically only on issues relevant to the effects of SMS communication on certain issues pertaining Interpersonal Relationships (IR) and Task Execution (TE). The duration for the study was limited to a finite six-month period and the source of data collected was limited to SMS transcripts and physical observations made by the primary participant – i.e. myself. Thus, the consequential scope of study was also very much controlled. All these limitations were intentionally imposed in order to narrow down the scope of the study to formulate a tangible yet credible academic exercise, simply to fulfil the partial requirements of a graduate-level, 3 credit project-paper to be submitted in partial fulfilment of a Masters of Instructional Technology.

In retrospect, these limitations seem arbitrary and confining. Although this project paper presents sufficient findings to the research questions that it sought to investigate, the qualitative nature of the data documentation alone raised more questions than answers, throughout the study. Despite the enormous effort I had made to be diligent, perseverant, and detailed throughout the study, as much as I would like to, unfortunately, I cannot claim my effort to be exhaustive.

Although such, I must emphasize, the study is not at all lacking in complexity or depth. In the six-month period, I was able to examine a wide variety of situations in which SMS communication was used as the primary and/or only mode of communication in a variety of task types by a consistent sample

population of over 50 people. The observable multiple permutations of causal relationships between the many variables are overwhelming in both quantity and diversity.

Notwithstanding the official submission of this paper as a requirement for my own graduation, as the researcher for this study, I would like to record in this Conclusions Chapter, that I personally feel that this study was too limited. If given unlimited resources and time, I would have pursued this study with much fewer physical confines. I believe there would have been many more findings to be found if the scope of research were to have been expanded.

Application

Covert Immersion Corollary

The patterns observed and concluded in this study can be established as guidelines for application to improve interpersonal relationships and everyday work efficiency. To a certain extent, during the duration of the study, this was carried out as part and parcel of the research ongoing formative evaluation – an integrated live experiment made possible thanks to the successful covert operations by the researcher, yours truly.

Patterns which produced desired results were repeated, and patterns which produced undesired results were avoided. But sometimes, patterns that had failed with one person produced positive results when experimented on others in different scenarios. In these cases, the covert experiment benefited from having a control

specimen who also acted as a source for member checking.

No, you didn't change your strategy. You repeated exactly the same formula on me as you did to him. You needed to find out. If I ended up differently than him, then you would know it was not you who failed.

P_L. P_R (personal communication, January 15, 2004)

The later stages of the study showed much more significant consistency in the patterns observed than the earlier stages. This was also probably due to my own learning curve, being able to apply the lessons learned from earlier SMS communication effects. Diligent documentation of transactions, in their raw state as they were, allowed me to analyze my own reactions. I became as much of a "white rat" in my own study as the people I was studying were to me.

You have to go one full circle. You have to learn from your own "students". You teach us. We learn from you. But when you watch us learn, and when our learning teaches you... it is then, that you would have achieved your greatest feat.

P_L. P_R (personal communication, 23:00 December 25, 2003)

Indeed, I feel that I have learned so much from my experience. I dare say I am a changed person. Once, many years ago during my difficult adolescent years, when I was having a major argument with my father, at the peak of the fight, my father threw his arms up in defeat and said that he did not know how to be a father to me, as he had never had a first child before.

Previously, I never understood what he had meant that day.

After this study, I do.

I never said being a leader is easy. You have no idea how difficult it is to lead all of you (staff). I have made many

mistakes in the past, and have always had to pay a high price for making those mistakes. It is not easy leading all of you, for the answer to how best to lead all of you, lies within all of you.

P_H. P_R (personal communication, 13:30 September 12, 2003)

I learned that it is not only important for a senior person to learn from his juniors, but sometimes, it is the only way for a senior to learn certain things. For such learning to take place, not only must the senior open his heart to learn, but the junior too, must play an important role. No matter how junior a person may be to his supervisors, sometimes, it is the junior who must learn to play the role of leader, instigator and controller.

The learner must become the instructor, who teaches the teacher what to teach.

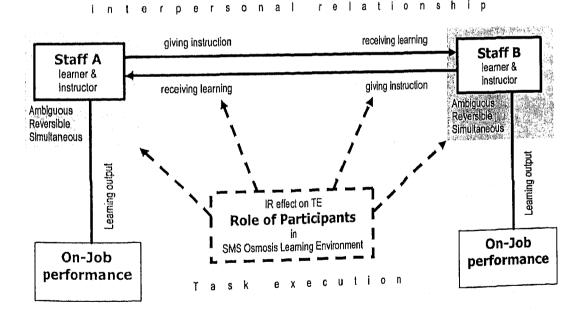


Figure 5 - 1: IR influence on Task Execution (TE) - Ambiguous reversible role of participants

Don't worry PR(2). I w handle it

TQ. But, I don't get it... Where did I go wrong?

U didn't 09 10 03 / 19:47

SMS based Osmosis Learning provides an avenue for this to occur (Figure 5 - 1). It gives both parties the opportunity to learn their unconventional roles in a ways undetected and unobtrusive. This is especially critical in Asian cultures, where "face" holds a higher value than actual supremacy. According to these doctrines, valued since the reign of ancient emperors, an instructor must never be seen as weak or defeated. It is of utmost importance that the instructor maintains an untarnished public image of being in charge. Thus, it is the duty of the aide de camp, or entrusted student, to constantly look out for the instructor, and advise him accordingly on how and what to do, no matter the price. And if the student is able to achieve this without detection, it would be ideal. Reverse Osmosis would have taken place.

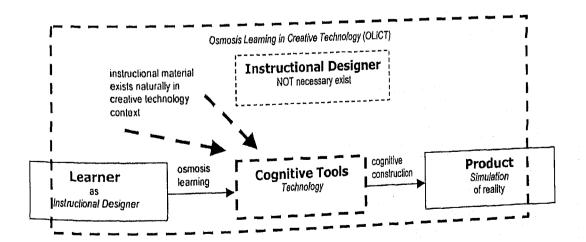


Figure 5 - 2: Proposal Paradigm - Osmosis Learning

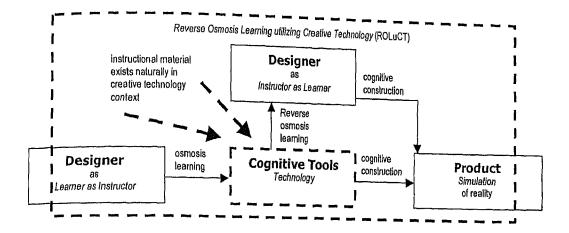


Figure 5 - 3: Proposal Paradigm - Reverse Osmosis Learning

Thus, in summary, when used in covert immersion situations, SMS based Osmosis Learning can be applied by an individual to mould people around himself. And since this empowerment can occur in both directions, from instructor to learners (Figure 5 - 2) and from learners to instructors (Figure 5 - 3), the overall learning process becomes fluid and ever-fluctuating. Both learner and instructor become engaged in a mutual race to "influence" each other. This "homeostasis" (Maslow, 1954) inadvertently nurtures individuals that persistently pursue "self-transcendence" (Maslow, 1971).

Action research with a purpose

...ever since first started workin with u, learnt a lot and always took yur advice seriously although I didn't always execute it properly. But today thanks to u, we can interprete our boss easier and know how to make (our boss) say YES to things that (we) want.

P_L-P_R (email communication, January 5, 2003)

In addition to my own personal growth from the application of this new knowledge, it was clear that all the other participants benefited too. In some

departments, where there happened to be a high concentration of participants, the effect was most obvious. At the early stages of the six month study, there was barely any noticeable teamwork between junior and senior staff. But towards the end of the duration, the participants clearly showed their ability to relate to instructions from their bosses, one of whom included me.

Thank you so much for the knowledge given to me. Certainly still thursty for more to learn from the right teacher. Again truly appreciate your assistance. You are such a wonderful person and definity one I will never forget for the rest of my life..really.

P_L P_R (email communication, September 9, 2003)

One of the outcomes from the study that caught me totally off guard was the slew of unsolicited positive commentaries that I received from the participants. Throughout the six months, I received (and sent) many SMS transactions that exposed inner feelings. Many included positive reinforcement in the form of praises, encouragement, gratitude, and even simple agreement. SMS dialog seemed to provide the perfect one-to-one confidential medium for expressing emotion. This observation was of course inevitable, as the focus of my study was on Interpersonal Relationships (IR), which relies on human emotion. But it was the subsequent non-SMS transactions, which I received above and over the daily SMS dialogs that made me realize that my "experiment" had profound effects on the participants.

Some came in the form of personal messages via email. Others included "sweet gestures" such as one where I received a bar of chocolate, brought back from an outstation trip. The participant had purchased the gift as a token of gratitude for my "feeding him information" and "helping him through what needed

to be done", which I did diligently via SMS dialog throughout his trip abroad.

I hope this is enough detail for you. Once again sorry if I seem to evade your questions, but i am not really good in articulating my sms while meeting (with) boss and (the) team. Love, P_L

P_L. P_R (email communication, August 9, 2003)

But while some participants took to the SMS based Osmosis Learning like fish to water, others needed a longer learning curve to get used to communicating in this new context. These participants instead relied on a hybrid mode of using SMS in combination with more traditional communication mediums, such as email, verbal handphone and even face-to-face dialogs. As a result of this, rather than limiting my study to the "purist" path of only pursuing the research questions that I had originally sought to answer, I allowed my study to digress and expand to include documentation of all subsequent observations in whatever media that the other participants felt comfortable with.

Thus, my study stayed in line with the Principles of Aptitudes (Cronbach & Snow, 1989) theory, which advocates that individuals should be encouraged to use their preferred intelligences or individual styles of learning. In my study, everybody was given the opportunity to learn in their own way. Everybody was "allowed" to be themselves.

Subsequently, what mattered most was not "what", or even "how" they learned. The most important thing was "why" something needed to be learned. I noticed that the participants had to "want" to participate before any Osmosis Learning could take place. The participants had to be convinced to believe in a reason. Seeing is believing. A "purpose" must exist before there is a "will". And

the closer the relationship between the learner and the instructor, the stronger the will to learn.

I am very flattered about your proposition. (I agree) its all down to teamwork. (I can see for myself) For example $P_L(3)$ did a good job, $P_L(4)$ did jump in the wagon last min, (and) $P_L(5)$ had good suggestions. I don't want to be doing paperwork all the time so I'll take your offer (to learn how to be part of your team).

P_L.P_R (email communication, August 9, 2003)

We shall both work towards learning our jobs well. For your info, I do this with many others (I am sure you have noticed). However, different people have different talents, and are of different job roles, and thus, the learning focus may differ. I myself, am in training, and learning from others above me. But do reach out whenever you need input. You can SMS or email me ANYTIME you need. If you email & want me to check it fast, SMS me to tell me you emailed something. Looking forward to working / communicating with you.

P_R - P_L (email communication, August 9, 2003)

The participant shown in the email dialog above was a new staff whom I had had no prior IR with before. But his will of steel in wanting to achieve his goals of moving up the corporate ladder, and away from being pigeon-holed in a boring desk job, gave him the determination and reason to participate with full enthusiasm. Shortly after this email dialog, this participant worked closely with me, quickly learned the art of SMS communication and eventually became very adept at his job. He was one of my strongest "believers".

You are not easy to work with. In fact, I think you are the @#!!ing hardest of all the bosses in the office to work with. But your method works. You don't just tell us to DO the job. You teach us HOW to do it. And what YOU don't know how to teach us, you show us where WE can go learn it from.

P_L.P_R (personal communication, 14:30 January 21, 2003)

Of course, not all participants had an easy time getting acquainted with me. I too am human, and I too have my own preferred style. But in general, as long as I stayed true to the objective of the study, focusing on SMS effect on IR and TE, I was able to successfully apply its benefits to all participants in any department within the establishment. The principles observed were found to be applicable across the board.

The larger picture

As this formula proved successful repeatedly with different groups of participants within the organization in this study, regardless of job or staff involved, it would not be too far fetched to assume that, if the equation were to be carried one step further, any community of people, who work together, would also benefit from this knowledge.

Industries in which training cannot be done prior to commencement of work would benefit the most, as this on-job impromptu learning environment would be a perfect solution to instructional delivery. Areas of possible immediate benefit could be in the creative industries, for example in entertainment, advertising, communications, event management, and other industries where many people from varying backgrounds and levels must work together intensively to produce a unified goal within limited and defined parameters.

Some examples of possible similar case studies that could be pursued as a follow up of this one are (Table 5 - 1):

Establishment	Work environment	Possible Research Study
Private tertiary institution	Identical to this case study, except SMS communication culture not yet established	Investigate if SMS Osmosis Learning is replicable using same formula
Public tertiary institution	Inertia to using personal funds for official work	Investigate prerequisites necessary for participant investment
Tertiary level classroom	Formal teaching and learning environment (not on-job training)	Investigate if SMS Osmosis Learning can compliment or give added value to existing teacher-student relationships
Non-education based company	Concept of teaching and learning not pre-existing	Investigate characteristics of "instructors" and "learners" relative to prior knowledge towards teaching and learning techniques

Table 5 - 1: Samples of Proposed Further Studies

Other variables that could be focused on in these proposed studies include (Table 5 - 2):

Focus	Variable	Possible Research Study
Linguistics	Predominant language medium used in SMS is not English	Investigate characteristics of criteria for choice of SMS short forms and sentence structure when dialog is in Bahasa Malaysia, Chinese or other languages
Hybrid SMS vs. pure SMS mode	Comparative study to participants who have no alternative means of communication except through SMS	Investigate limitations of SMS based Osmosis Learning and/or discover unique characteristics of SMS communication in comparison to other modes
Multimedia Messaging Service (MMS)	Comparative study to sample population with added MMS advantage	Investigate if visual/audio affordances produce different outcome from that of pure text communication

Intent/Objective	Focus on personal growth rather than on Task Execution (TE)	Investigate if SMS based Osmosis Learning can be applied to social work such as counselling
Larger sample population	Effect of ubiquitous use of SMS within mass population	Investigate patterns of popularity and effectiveness in different demographic groups

Table 5 - 2: Samples of Proposed Alternative Variables to be Studied

Macro scale

At this point, it might be interesting to take note of the current state of affairs pertaining SMS communication in the country. The following (

Adapted from:
(Chelvi, K.T., 2004, February 8)
(Loh, D. 2004, February 18)
(Puteri UMNO, 2003, November 12)

Table 5 - 3) are some revealing figures from the Malaysian Communication and Multimedia Commission (MCMC) as reported by the media:

Information provided		Figures reported
Date SMS first offered in Malaysia		October 2001 (3 years)
Total estimated gross value of SMS sent	2003	RM 1.2 billion
Total estimated number of SMS sent	2003	6 billion SMS
Total estimated number of SMS sent	2002	3.64 billion SMS
Population mobile phone subscribers	2003	42.4% (10 mil people)
Population mobile phone subscribers	2002	36.9%
Population mobile phone subscribers	2001	30.8%
Growth cellular service (verbal commun	20%	
Growth of text messaging (SMS communication) taking into account the increase of subscribers		76%

Adapted from:

(Chelvi, K.T., 2004, February 8) (Loh, D. 2004, February 18) (Puteri UMNO, 2003, November 12)

Table 5 - 3: Statistics on National SMS usage as Reported in Media

These figures imply substantial dependency on SMS technology as a mode of mobile communication in comparison to the more conventional verbal dialog as afforded by mobile hand phones. Bearing in mind that mobile handphone technology has been around in Malaysia since the early 90's, the advent of SMS surpassing handphone popularity by leaps and bounds in a mere 3 years is quite astounding.

Public reception to this phenomenon is mixed.

Some view the proliferation as a threat. For example, the emergence of new SMS short form vocabulary and syntax is seen as a corruption of established written languages. Or, the ability for people to send SMS 24 hours a day is seen as an infringement of the receiver's privacy. Others have made the argument that over-use of SMS can result in addiction, leading to obsessive-compulsive disorders similar to that of alcoholism and drug abuse. These people choose to pinpoint only specific negative side effects of SMS communication and ignore its vast potential.

But others who are unscathed by such narrow minded pessimism are able to look at SMS development with a more positive outlook.

We are very much encouraged by developments (of SMS) taking place. This is part and parcel of our move towards E-Government and towards incorporating the use of ICT in Government processes and, more importantly, dealing

with and serving the public. SMS and the e-mail have become the norm for internal communication in the civil service. There will be more Government agencies offering information services via SMS.

Datuk Amar Leo Moggie

Energy, Communication and Multimedia Communications Minister, Malaysia

(New Sunday Times, January 18, 2004)

The official statement made by the Minister implies that the Malaysian Government views SMS communication as a good development. Some of the current diversified uses of SMS technology by Malaysian Government agencies, as has been reported in several recent newspaper articles, are as follows (Table 5 - 4):

Government Agency	Application of SMS communication	
Ministry of Defence	Update youths on National Service duty	
Road Transport Department	Update motorists on traffic offence summons	
Road Transport Department	Police background checks on individual motorists and vehicles though general packet radio service (GPRS)	
Commercial Vehicles Licensing Board	Sending status feedback to taxi drivers	
Pos Malaysia Berhad	Checking delivery status of registered and express mail	
Election Commission	Check voter registration status	
Political party (unnamed)	Check party membership status, news updates, download logo and ring tones of party song	
Puteri UMNO public complaints bureau	SMS hotline for incest and domestic violence abuse victims (in operation since April 2003)	
All government departments and agencies registered with "DAPAT" service	Database server for SMS communication with the public; Receives request from consumer on demand via SMS and reverts information to consumers via email (to commence operations on 16 February 2004)	

Adapted from:

(Chelvi, K.T., 2004, February 8) (Loh, D. 2004, February 18) (Puteri UMNO, 2003, November 12)

Table 5 - 4: Sample of SMS Application in Government Public Interaction as Reported in Media

Sadly, none of the examples given involve Higher Order Thinking (HOT). SMS communication is not at all acknowledged as an environment in which learning occurs. All of the tasks listed merely involve the delivery and receipt of raw information. The application of SMS technology in these examples only utilizes SMS as a perfunctory tool. Despite the Minister's assurances in his public statement, absolutely none of the published examples indicate any effort on how the Government intends to "more importantly, deal with and serve the public".

But surely such "dealings" would involve much more than just SMS based transference of data? Hand phones and SMS database systems per se, no matter how technologically advanced, cannot "deal with" or "serve" the public. It is the human interaction, enabled by such technology, which actually performs the task.

The real problem is not whether machines think but whether men do.

Skinner, B.F. (1969)

If SMS communication is to be seen as an alternative mode of interfacing with the public for statutory transactions (task execution), surely issues relating to Interpersonal Relationships (IR) between the public (learner) and the Government (instructor) should be addressed? And surely the concept of Reverse-Osmosis, where the public (reverse-role as instructor) is able to influence the Government (reverse-role as learner), would be useful for improving the current system

(formative evaluation)?

"Social service" should be more than merely lending a sympathetic ear, more than just churning out data, and definitely more than just receiving (and storing) messages from the public. For example, the abuse hotline SMS should involve sensitive and professional support. It cannot only rely on hired help who mechanically respond to incoming SMS transactions. It would require knowledgeable "instructors" or "facilitators" who are able to interpret the SMS received and respond with conscious responsibility in such a way that the SMS sender would "learn" how to cope with his or her problem at hand. Even the SMS language used in sending a response to an abuse victim should be carefully worded. Expertise in handling emotionally scarred victims is critical, especially when communication is not face-to-face and relies merely on words transmitted through an SMS.

Training staff on the job to handle such "social services" would be an immense task. Given the magnitude of the task, as well as the volume of numbers involved, it would not be possible to have the staff take time out from work for training. Any training to be done would have to be on the job. In the United States, for example, "90% of all corporate and government training occurs on paid time" (Haddad, W.D. & Draxler, A. (Ed.s)., 2002). In Malaysia, on the other hand, there are no reliable published figures that reflect any on-job training at all, be it SMS based or otherwise.

But even before any training can take place, the content and intent of the training must be adequately addressed. Unfortunately, such a body of knowledge

does not exist yet. There is (so far) no known research on effective SMS interaction between the Malaysian government (or any public service body for that matter) and the local public.

In this view, perhaps the further research possibilities as discussed in this paper could be tweaked to address these Government-Public interaction issues.

Some examples could include:

Focus	Issue	Possible Research Study
Linguistics	Language used by Government Agencies	Investigate and establish dictionary of suitable SMS syntax and vocabulary in all local major languages to ensure friendly and efficient SMS communication
Hybrid SMS vs. pure SMS mode	Public literacy level	Investigate level of knowledge, skill and accessibility of Malaysians in using SMS and other media
Multimedia Messaging Service (MMS)	Multiple intelligence approach	Investigate opportunity to bridge multiple cultural, racial and language barriers by using visual rather than text based communication
Intent/Objective	Social engineering	Investigate possibilities of using SMS in counselling and reform work in situations where face-to-face contact is not ideal
Population	Demographic stratification	Investigate patterns of SMS use based on SES, locality, age, race etc. etc.

Table 5 - 5: Sample of Proposed Further Studies Relevant to Government Public Interaction

A

Implication

Benefits for the participants

This six month duration of action-research created and nurtured a community of learners who were not only immersed in, but who were also integrated with, their SMS technology environment. The dimension of time became redefined. The sanctuary of personal privacy and space became questionable. The laws of work-hierarchy became archaic and cumbersome.

I just thot u shud knw, P_L(3) just got a raise. Actualy so did I. 28 01 04 / 18:50 Thus, the participants in this "quasi-experiment" developed a new culture, in which work and interpersonal relationships become inseparable within a virtual environment saturated with SMS communication. From this new culture, emerged new work efficiencies, such as speed, accuracy, interactivity, and empowerment – definite benefits in one's core job.

Thank u. Glad to hav had u as a "teacher" make use of everything u taught me everyday. We shal hav diner soon.
29 01 04 / 19:19

The participants who embraced this culture had learned and gained much from the experiment/experience. They internalized what they had learned, and are able to apply their newly learned culture for their own personal gains. Not only have they become better workers, they have become a better people.

Furthermore, many gained new sincere friendships too—a sweet cherry topping for an already satisfying dessert.

Benefits to the organization

It is interesting to note that in the six months duration, the group of active participants changed several times. In some cases, existing participants changed job portfolios, and in other cases, new participants were employed. But in all situations, the SMS based Osmosis Learning being observed in this study continued to exist and proliferate. Thus, the benefits of the phenomenon ultimately lie with the overall establishment more than the individuals involved.

"SMS teamwork" is more than just about working together in this place. It is a way for every member of the team to know everything about everybody else's job, schedule, personal life, problems, solutions, fears, likes, dislikes. Every member must be able to stand in each other's shoes at any given time. Anyone can learn anyone's job. Everyone has the opportunity to learn and earn a higher role. This way, it doesn't matter who is sick, on leave, unavailable, or no longer working here. The job still gets done. Work is work.

P_R - P_L (personal communication, November 16, 2003)

The establishment benefited greatly from this emerging culture because the staff were no longer merely employees who functioned within their job roles. They instead evolved to become a close-knit family, bonded by mutual interdependency at all levels. This unification was, and still is, more than just superficial adhesive. Individually, the culture is deep-rooted and born of personal aspirations. Thus, as the whole becomes more than the sum of its parts (Wertheimer, 1924), the overall community resonates an even more potent end result. The establishment becomes a growing, living and learning entity in itself. It embodies the very essence of a Learning Organization (Senge, 1990).

Reservations towards the outcome

The ability to use SMS technology to manipulate IR or TE, and ultimately employ the improved IR to further control TE, is a powerful asset. This application of Osmosis Learning yields deep and long lasting effects on both learners and instructors. If even this short six month study is able to produce results of substantial effect, imagine the magnitude that could be made possible if the learning exposure is prolonged...

But, is this ethical? Does one person have the right to decide what should be learned? In a classroom situation, it is clear cut. The student, who plays the role of the learner, is expected to trust and accept what the teacher provides. The teacher, who plays the role of the instructor, is entrusted with the responsibility of delivering a syllabus and producing learning.

However, in a Learning Organization, where the roles of instructor and learner are made amorphous by the advent of Osmosis Learning, it is not so straight forward. The seemingly innocuous SMS has proven to be able to produce learning in ways that has perhaps never been taken into consideration seriously before.

Radical constructivists believe that what a person perceives to be reality influences his output (Glaserfeld, 1970). In this case study, an instructor, to a large extent, has the power to manipulate a learner's perception of reality. From the information received via SMS communication, either direct or planted, a learner constructs his perception of a given situation almost totally at the mercy of what his instructors and colleagues choose to SMS to him. And although additional

information could be solicited using other communication means, by virtue of sheer convenience and accessibility, SMS communication would almost always be the sole criteria in forming the learner's reality construct.

This implies that although SMS-based Osmosis Learning may be involuntary on the part of the learner, but to the instructor, it offers the ultimate conduit for imposing upon the learner, without the learner even realizing it. Once the instructor has established a substantial level of Interpersonal Relationship (IR), he would command a certain level of trust from the learner. Whatever information or instruction he decides to SMS to the learner, the learner would have faith in it. Thus, the instructor has substantial control over the learner's Task Execution (TE). In positive terms, it is a wonderful means of making learning a painless and effortless process. But in negative terms, it is an invisible or undetectable means of mind control (Figure 5 - 4).

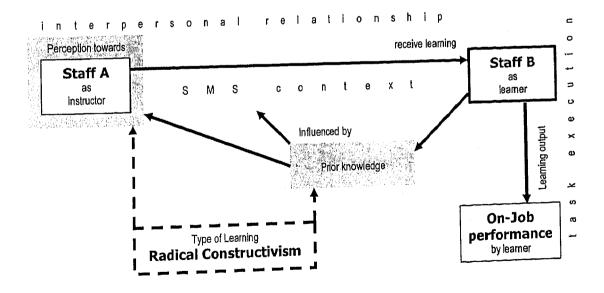


Figure 5 - 4: IR influence on Task Execution (TE) - Application of SMS communication for mind control

One can make the argument that in most cases, people do not really need to know "everything". Many believe that in order to execute a task efficiently, one must focus on the specific task at hand. Being clouded by too many unnecessary details can actually reduce efficiency.

This was exemplified clearly with some of the participants in my case study. These were employees who were stationed at offshore satellite offices and had no direct access to the senior management. All instructions for tasks to be executed were delivered via intermediary persons. Due to the physical distance, costs involved and real-time convenience, SMS became the prime mode of communication between these employees and their immediate supervisors. These employees were totally dependent on their SMS interaction with their supervisors. Their perception of "reality" comprised only of what was "fed" to them.

As I happened to be their central contact person, and as I did not want to burden them with unnecessary worries, I made the conscious decision to insulate them from the problems that were occurring at the main office. All dialogs (SMS, email and telephone) between them and their team members at the main office were painstakingly "designed" to provide the necessary task information, minus any indication of unrelated problematic issues. This way, they were able to continue their work at the satellite offices without being unnecessarily distracted.

The result of this was clear. Despite turmoil and chaos that was occurring at one end, these participants were "protected" within the SMS "virtual context" that I had built and were able to continue with their work undisturbed. They did not have to suffer unnecessary worries over issues that did not affect them anyway.

And the subsequent task output was achieved without disruption.

This scenario, although at first glance seems ideal, if re-examined philosophically, touches on the classic argument of whether or not learning should be the result of the learner's conscious and voluntary will to learn. Shouldn't a learner have the right to decide what he learns? Or can an instructor, who supposedly has more wisdom, decide for the learner, what should be learned?

Sometimes I wonder if it is ethical for me to "help" them. Although I know I am providing a shoulder to cry on, a punching bag to let out frustration, a neutral source of advice, a shield to protect, sometimes I do wonder if I have the right to be all those things. Who am I to play God? Who am I to change their fate? What if they were SUPPOSED to have learned that sometimes, there ISN'T anyone to cry to, or vent their frustrations on, or seek guidance with, or hide behind? What if my intervention had deprived them of these important lessons in life?

P_R - P_L (personal communication, January 7, 2003)

This study has shown how SMS communication can change the lives of its users. On the surface, the benefits are rosy, desirable and "good". IR between colleagues, superiors, juniors and even acquaintances, can be made more affable, palatable, and conducive for work. TE at any level, or in any context, can be made more productive, efficient, and effective.

But who determines the benchmark of what is "good"? To what degree does one person have the right to decide the path of another?

All animals are equal, but some are more equal than others.

(Orwell. G, 1945)

Movies and novels have time and time again been used by creative philosophers to warn mankind of the dangers of such greed and self righteousness. Yet, great wars have been fought, and still continue to be fought, based simply on one nation's opinion over another pertaining what is, or is not, "good".

Luckily, this study involves only a small sampling of people, isolated within one organization. It is in no way representative of any global threat. Even if the management of the organization, or separate individuals within it, master the science of applying SMS based Osmosis Learning, it would be far fetched to think that such knowledge could be used for mass scaled social destruction.

Or would it?

Advertising and mass communication are modern invented disciplines that utilize visual technology to manipulate human thoughts. The invention of satellite broadcasting catapulted the power of advertising to cross the boundaries of nations. Today, thanks to this globalization, capitalist countries dominate the commercial market through superior satellite broadcasted advertising. There are many quarters that view this dominance as a modern day version of Colonization.

Could some day, SMS based Osmosis Learning also be applied for psychological manipulation on such a scale? And for what purpose?

Imagine a scenario where people can go around town, walking, going about their daily chores, seemingly no different than what we see today. But the

difference is they all wear special "glasses" that have micro digital video cameras which are connected to mobile micro processors that are internet enabled, similar to that of the "Eye Tap" invented by visionary, but eccentric scientist, Steve Mann (Bergstein, B., 2004, February 5). The "Eye Tap" is envisioned to be the latest technology that will spark a new generation of mobile devices, totally unobtrusive but instead, integrated with the human attire. The technology it offers could easily accommodate handphone SMS functions. Therefore, through these special "glasses", people would be able to send and receive discreet SMS, or Multimedia Short Messages (MMS), at will.

They would also therefore, possibly be subjected to receiving SMS that has been designed by "instructors" to manipulate their thinking, "learning", reaction, etc. etc. etc. using the same patterns that have been illustrated in this study.

Imagine if this is possible at a mass scale. Whole populations could be "taught" using Osmosis Learning through this "Cyborg" technology. Entire civilizations can be manipulated to "learn" whatever contents the "instructors" program into the device. It would be like the mind control paradigm in the Matrix (Wachowski, A. & L., 1999). It would be the perfect tool for social engineering.

The scariest part is that this technology is already available. The "Eye Tap" by Steve Mann is no movie prop gadget. It is a real invention that has already made its debut in reality.

So, is this scenario merely an imaginative story line? Or could this idea really take form? Back in the early 60's, Coca-cola rocked the world when they disclosed their revolutionary, but questionably unethical, subliminal advertising

(Maas, J.B., 1988). The technology of 16mm motion picture film sparked creative psychologists to experiment mind control using pictures of the Coca-cola bottle interspersed at every 16 frames of a film reel. As the human eye can register objects at every 12 frames, but only register movement at every 24 frames, the picture of the Coca-cola bottle acted as a subconscious message that the viewers did not detect. This "experiment" was carried out nationwide across the United States, funded by the greedy pockets of the Coca-cola corporate executives. Needless to say, Coca-cola grew almost overnight to be a giant in the soft drink industry.

Of course, the company's tactics were eventually discovered, and laws were subsequently passed to ban such subliminal commercial manipulation. But the damage had been done, and the mass engineering had been accomplished. A whole generation of movie-goers had been "planted" to "learn" to respond to the "instructions" created by these mastermind "instructors".

So, back to my earlier question. Could the proposals for further research as outlined in this humble project paper somehow be twisted for unscrupulous intent? And if so, by whom?

The answers to those questions, unfortunately, lie far beyond the scope of this research study. Perhaps another research paper could be done, purely to explore such (morbid) possibilities.

After thoughts

Osmosis Learning is a fancy terminology coined to describe a phenomenon that has always existed. SMS-based Osmosis Learning involves the same phenomena, but in the environment of a new technology. Actually, what I have done in this research is nothing new. My study merely presents findings that are already "known", but perhaps, not "made known".

That is true of all sciences. Things have always existed, but nobody realizes it until someone comes along, defines it, and gives a label to it.

Phillips (personal communication, 17:20 January 8, 2004)

So, if a study is rhetoric, then, why bother doing it at all? As I had stated in the introduction abstract of this paper:

The rationale for the study was the need to identify patterns and models of learning within this (SMS) technological context, and the objective was to strategize the application of such identified patterns or models, for the mutual benefit of the people and establishment involved.

The objective of this study, as stated, has been achieved. The patterns or models of learning have been clearly illustrated. The mutual benefit to the parties involved has been (and still is being) enjoyed. The task I had set out to achieve is done.

Or is it?

The objective of doing academic research is to document SMALL specific studies according to universally accepted methods. The objective of YOU doing this (3 credit project paper for your Masters requirement) is to show that you are ABLE to do academic research. It will not be some earth shattering discovery. It is just a small study that maybe, if you are lucky, someday, someone might pick up in the library and be sparked to do further research. After all, that is how great discoveries are made... inspired from small studies done by others.

Phillips (personal communication, 12:30 November 11, 2004)

Well, I hope my study is not merely rhetoric. I hope this submitted paper fulfils my graduation requirements. I hope the bounded copy makes it to the library. And I hope the contents someday may be of use to others.

THE END