

# **SUCCESSFUL INTRODUCTION OF COMPUTER MEDIATED LEARNING**

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## **Summary**

*This article relates experiences in the introduction of Computer Mediated Learning in a number of organisations. The importance of accommodating the needs of six key groups, (Policy Makers; Educators and Trainers; Students; IT Professionals; and Other Stakeholders), to overcome resistance to change is stressed, along with the identification of proper planning and resourcing as main criteria for successful introduction of Computer Mediated Learning in an organisation.*

## Introduction

A good idea may fail in practice for many reasons. It may be ahead of its time, it may not be properly understood, there may be organisational reluctance to changes in existing practices, or, of course, it may be that the *good* idea is simply awful. For the purposes of this article we assume that Computer Mediated Learning (CML) is a method of communication of merit and worthy of support. Organisations fail mostly because they do not understand the essential differences between online learning and other learning delivery media.

Computer Mediated Learning means using computers linked to a central server, by either a Local Area Network (LAN) or modems, to deliver education and training asynchronously. This system, not only *permits* students to collaborate and interact with fellow students and tutors, but also actively *encourages* it. Users of this system of learning (students and tutors alike) can take part independent of time or distance constraints. Tutors can also give students near instant feedback.

As EB White pointed out, *The only sense that is common in the long run, is the sense of change - and we all instinctively avoid it.* It seems to be a part of the human condition that most people find change uncomfortable – unless, of course, they see some benefits, particularly for themselves!

If CML is to be successfully implemented in an organisation, its people, at all levels, *must* change the way 'they do things around here.' It is a truism that if we always do what we always did; we will always get what we always got. In modern times, when many organisations are fighting for their very existence, they must simply change the way they go about their business or perish.

One of the real problems that we have seen is that organisations want the benefits of change but many of the same organisations are unwilling or unable to devote the necessary resources to give the implement such change a real chance of success.

One of the most important first steps in successfully implementing CML in an organisation is to identify within it key groups of role players likely to be affected by its introduction. It is then necessary to develop a strategy to gain the co-operation of those key groups. If this is formulated in a systematic way, the successful introduction of CML is rendered much more likely. Policy makers often attempt to initiate change on the assumption that members of their organisation are likely to take a rational view of organisational change. (Such a view is sometimes referred to as the Rational Unitary Goal Setting view.) The imposition of a policy based on this rational view is unlikely to succeed and is likely to set back the cause of CML. Despite what many Chief Executives Officers or Vice Chancellors may prefer to believe, few people hold the same views as to the best means of achieving organisational change. Often, they will not even agree on what the goals of the organisation should be! It may therefore be a mistake to think of an organisation as being a unified entity with corporate, shared goals.

If this assumption is made in relation to the introduction of CML, there is likely to be resistance change involving CML. Change management experience is that if the process of change is mishandled apparent acceptance by staff will conceal working practices designed to undermine the change. This (sometimes unconscious) subversive activity will be designed to preserve the status quo. Failure to implement change through CML may result in the organisation becoming increasingly uncompetitive – particularly if CML is successfully introduced by competitors.

Personal goals are often linked to an individual's function within an organisation. We recognise that many other influences - not the least of which is ambition - may affect the likelihood of acceptance or rejection of change. However, trying to identify key groups of organisational role players affected by CML is an essential prerequisite to developing a successful implementation strategy. The following is our analysis of these key groups of organisational role players and reasons why each group might be attracted to the use of CML. Very few organisations attempt to try and identify the key groups in their organisations. Failure to appreciate resource implications, even for a limited implementation, is one of the main reasons for failure.

## **Key Group 1- Policy Makers**

It is vital members of this key group actively support the project. Without their sponsorship the project will wither on the vine. To be in a position to effectively influence the decision making of this key group, it is essential that those introducing CML understand some of the motivators of policy makers. What are the main problems policy makers have to tackle? Whether they are in the public or private sector, one of their hardest tasks is to deliver value for money. In the present political and economic climate this ethos is inescapable. An organisation will be seen to be successful if it meets the needs of its customers – who might be students or staff. A policy maker's tenure of office will be judged on how much improvement was achieved during his or her administration. They will be asked:

- what added value did you bring the organisation;
- was the reputation of the organisation enhanced or diminished during your tenure of office;
- is the organisation better or worse for being led by you; and
- did the organisation make best use of technology to help in achieving its goals?

Policy makers are keenly aware of such questions and the judgements that flow from the answers. To uphold their professional reputation and credibility they will be anxious to leave no doubt that answers to such questions are in the positive.

Any proponent of CML can effectively argue that it will:

- save money by increasing student access whilst not having to greatly increase training facilities;
- permit part time trainees to effectively study from their home or work place (attractive to many mature students and most employers);
- allow for greater inter organisational collaboration, thus providing a wider range of courses; and
- enhance the organisation's reputation for innovative use of technology.

Faced with such arguments, policy makers are likely to support the implementation of CML.

In the case of a training or education organisation in which policy makers remain to be convinced, the issue of competitor institutions being able (and willing) to poach new students from its traditional recruitment areas may well be a point that will strike the necessary chord.

In many organisations, there is a reluctance by policy groups to put sufficient resources into the initial projects. The net result is that enthusiastic staff often try to achieve the impossible, spending much of their own time trying to make under resourced projects work. In many cases these champions of CML are rewarded with a great deal of extra work. This often results in good people failing because of having to divert their attention in too many different directions at the same time. Some of the more successful policy groups have recruited enthusiastic champions and given them realistic levels of support. This includes diminishing their existing workloads.

## **Key Group 2 - Practising Educators and Trainers**

Fear of redundancy and in some cases fear of the technology often causes individuals in this group to have negative feelings towards the adoption of new methods of education and training. This is particularly so where computer technology is involved. In recent times, such fears have been often compounded by methods of change management used in implementing radical changes.

It is our experience that, where Computer Supported Cooperative Learning is effectively implemented there is no reduction in tutor staff levels. The medium appears to enhance the status of the teaching staff. The teaching skills (and lack of them!) seem to become more apparent to all participants in CMC than is the case in traditional face-to-face delivery.

Tutors do not need a high level of computer literacy in order to be able to utilise this medium. They do need a good understanding of the psychology of learning. On many of our training course for tutors who wished to utilise this medium, we had at least 30% of participants who had previously not used a computer. About 20 -30% had previously only use a computer for very basic word processing.

Virtually all of these participants successfully completed the course and are now employing CML skills to deliver some of their courses. They also report that the experience on their training course has made them aware of the tremendous advantages this medium has to offer, as well as giving them a deeper insight into some of the disadvantages.

Imposition of new systems, without real consultation, invariably results in failure. If a system of education is to work, the educator has to be committed with heart and mind. Otherwise, the practitioners may find ways to subvert implementation. They will look for reasons why it can not work rather than its positive points.

So why should an educator want to utilise this medium?

A CML tutor should ideally be good at traditional delivery. They then require the additional teaching skills specifically associated with the CML medium and a deep understanding of how the medium affects the learning process. Experience of using CML is an essential for CML tutors, especially as demand for CML grows. Such experience will help to ensure continued employment, particularly if staff cuts become necessary. Lesser numbers of staff often means in reality that the remaining staff have to be multi skilled in order for the organisation to continue to function.

Due to the asynchronous nature of this medium, team teaching is much easier to accommodate. Input from people with subject expertise based in other institutions or industries at diverse geographical locations is possible. Collaboration on research and the production of academic papers becomes much easier using this communications tool. Given the lack of time available for most people, the collaborative process possible with CML often produces results that would be impossible for a single individual to achieve.

In courses that utilise the medium properly, because of the willingness of the students to collaborate with their peers and tutors in the learning process, there appears to be an enhancement of the teaching role. In such circumstances, students and tutors have described the medium as being addictive. This may explain the high level of participation by all involved.

If they are to gain a sufficient understanding of the benefits of utilising CML, educators need to be given sufficient training. Any institution that tries to short cut this process will fail to gain the essential commitment of hearts and minds. This should include a programme of awareness enhancing activities, such as workshops and seminars, as well as the training of CML tutors. After the initial introduction to such training, the instructional activities should be carried out through the CML medium. This gives the educators or trainers the opportunity not only to see and experience the tremendous advantages of the system but also permits them to gain first hand knowledge of some of the limitations of the medium. This is, we believe, essential if they are to understand this method of course delivery.

Another common problem that is that too many employers expect already over worked tutors to take on additional work as online tutors and online course designers. This is often expected when no training has been given and no extra payment or time off offered. On some occasions, when

the educator or trainer requested some training they have received responses such as *You know how to teach already! It cannot be that different!* or *Surely, you can pick it up as you go along!*

### **Key Group 3 - Students**

An implementation strategy needs to market to the student population the advantages of CML. Again, we have done this by running workshops and seminars, taking time to demonstrate the system and answer questions candidly. Student representative bodies or staff associations should not be forgotten in this process. Permitting student groups, such as the Student Union and sports and social clubs to have their own conferences on any CML system encourages voluntary participation. Where this has been carried out successfully students become advocates of the CML medium.

So what are the advantages for students?

CML offers an effective feedback loop for students. With email access to tutors, students can use the medium for virtual tutorials and delivering assignments electronically. They can also seek advice and can check to see whether or not a tutor has read such requests. Tutors can give the students praise in this private forum, as well as motivational advice. This is often missing in other forms of distance learning.

In the various CML conferences, students are able to interact with others and learn collaboratively. This seems to greatly aid the process of understanding and permits groups of students to examine and correct misconceptions. The conference area (or virtual classroom) discussions permit the tutor to see the level of understanding achieved and to pace delivery accordingly.

The 'little and often' nature of this study medium means that retention levels of knowledge are often higher. The medium allows the student to regulate his or her working patterns. This helps maximise the benefits of the individual's concentration span, which will vary from person to person.

Students can determine when and where they study. This form of learning is free of time and place constraints. With increasing demand for space on campus, students may work from home, thus reducing the pressure on training facilities. CML reduces costs and time associated with travelling to and from the campus. This gives the student more time management flexibility.

There is a higher level of mutual support among students. This leads to increased self confidence. This is because the system improves what we term 'democratisation of input'. Everyone has the opportunity to contribute equally. In reality, this is not the case in conventional course delivery.

The extrovert students tend to dominate. The faceless nature of CML seems to encourage the more introverted type of student. The reflector and theorist appear to contribute more than they would on a conventional course. This is because of the asynchronous nature of the medium that gives these learners the necessary time to make contributions. In traditional training environments, activist and pragmatist contributors rarely allow sufficient time for reflection.

Many Universities and colleges think that by producing multi-paged web sites they will stimulate student interest. If decision makers are asked "How many web pages are you willing to read on the screen at any one time?" they very quickly admit to not willing to read more than two and to printing out material if it is more than two computer screens in length.

Another problem is that many organisations seem to ignore their customers (students, delegates or course participants) until after implementation. They lose a great opportunity to gain student support, input and co-operation in the vital development stages of any online project.

## **Key Group 4 - IT Professionals**

Many CML projects have failed because *policy makers* and educators have failed to appreciate it is vital to have the support of the IT professional. It is essential the IT professional be given a good understanding of the importance to the success of any CML project of the conferencing facility. IT professionals are used to working with hard logical values (right or wrong answers). They sometimes underestimate the need for educators to be able to use computers in furtherance of the much less well defined and less logical people skills. By taking the trouble to demonstrate the collaborate nature of CML (using a guest account on an existing system), the IT professional can gain a clearer idea of the essential elements for any software system.

In most organisations there are non IT department people who are enthusiastic amateur computer experts. They often encourage the IT department to purchase and support various different forms of software much of which is of dubious value. This tends to mean that IT departments are very careful when asked about the purchase of non-standard applications.

The software used must be easy for course designers, tutors and students to use. Where IT staff fail to understand CML requirements, they may try to use some email software system that fails to take into account the needs the real needs of the users. IT professionals often underestimate the negative impact of the learning curve on non IT literate users.

If the IT department is some part responsible for the implementation of a CML project it is much more likely to be successful.

New software packages give IT staff extra work in both installing the software and supporting its users. In this computer driven age, most IT departments are already under pressure. Any new package may be seen as an additional burden and therefore resisted. When the senior policy making group becomes committed to the project, it helps greatly, if that group articulates to its IT staff the importance of the CML project.

In many organisations, IT staff are not brought into the project at the start. They invariably have little understanding of the nature of process or tutor led courses or of tutors' needs in relation to conferencing software. This results in them advising in favour of software that is good at delivering content rich courses. This software is then often chosen as the delivery platform regardless of process issues and requirements.

IT departments are invariably understaffed and under great pressure to service existing IT systems. Another system, without more IT staff, is likely to create additional unwanted pressure and tensions.

Many of the organisations that have conferencing systems have not trained their staff in how to use it effectively. We have found that many systems, although installed with good intent and great enthusiasm, are now little used because of a lack of staff training. In some cases, this has resulted in the loss of vital course material. A number of organisations have made a conscious decision to outsource this side of their IT requirement to specialist conferencing providers. These providers either host the courses on their servers or install, create and maintain such systems on behalf of the client. This also relieves the client organisations of having to establish and maintain specific help desk facilities to assist tutors and students

## **Key Group 5 - Other Stakeholders**

This group consists of: the trainee's present or future employer; funding bodies; and awarding bodies.

By including other stakeholders, an organisation shows it is forward looking and innovative. Many potential problems (such as CML courses meeting the criteria of awarding bodies) can be considered and a joint approach formulated. Knowledge of the potential benefits will therefore spread more quickly. This will help increase the student population.

The initial extra funding needed for implementation is also more likely to be made available when stakeholders see courses can be delivered to a much wider community. When the release of key personnel for training is a problem, the ability to deliver effective open learning courses has always been an attractive option.

Very few organisations have attempted to market their CML courses in the early part of their implementation project. This is unfortunate as often they may well develop champions amongst their potential client base. Awarding bodies may also be more likely to co-operate in relation to accreditation. Where awareness raising sessions have been implemented the use of CML has then been actively encouraged by these stakeholders.

## Conclusions

Not all CML projects are successful. It is interesting to examine the characteristics that mark out the successful ones. Invariably their implementers have planned a strategy that caters for the needs of the key groups we have identified. Where short cuts have been attempted, or organisations have rushed the process by failing to give key staff a real understanding of CML, the project has failed.

The implementation of this low cost and now low tech solution is something that most academic institutions will have to adopt, if they wish to remain competitive. As pressures on staff and budgets in other organisations increase, they too will be forced to consider innovative ways of doing more with less. CML offers a way of doing this.

There are far too many examples of failure attributable to either poor or non-existent implementation planning. The old adage holds good - *To fail to plan is to plan to fail*. This invariably leads to bad experiences, which often results in cancellation or, at the very least, long term postponement of the CML project.

However, organisations are increasingly coming to the realisation that content-rich courses are not the answer. More and more are now seeing the need to have process-rich courses run by properly trained Computer Supported Collaborative Learning tutors. The main reason is that this is seen as the best way of retaining students. There is also a growing realisation that this medium is here to stay and that it needs to be resourced properly if it is to be effective.