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Contents

Page

Papers

Policy and practice paper

Book reviews

Promoting children's rights on the Internet:From documentation to information

by Andy Bilson

Abstract

This paper outlines the need to move from an approach based on documentation to one based on information if the Internet is to be used to promote children's rights. The Centre for Europe's Children is attempting to do this by focusing on key issues – children in state care and sexual exploitation of children. The paper gives examples of services provided by the Centre from the development of a methodology for monitoring child care systems through to acting as a focal point for information on the commercial exploitation of children.

Centre for Europe's Children

The rapid expansion of the Internet has led to vast amounts of documentation being made available. This paper addresses the need for an Internet Documentation Centre promoting an issue such as children's rights to move from the simple concept of documentation to one of information. This move involves widening the sort of material that is made available through the world wide web as well as developing tools which can help make a real difference to policy makers and practitioners. The paper will give a theoretical view of why this move is necessary and will then go on to give some brief examples of the way in which the author has attempted to undertake this approach at the Centre for Europe's Children (CEC). In particular the paper will propose an action orientation as well as the need to develop alliances.

Before doing this it is necessary to explain something about the nature of the work of the Centre for Europe's Children. In September 1997 the author was employed by Glasgow University to establish the Centre. The Centre was set up as the documentation and information Centre for the Council of Europe's European Strategy for Children (Council of Europe 1996) which has now become the Programme for Children (Council of Europe 1998). The Council of Europe in co-operation with UNICEF entered into a partnership with the University of Glasgow, the Scottish office, and two non-governmental organisations, the NSPCC and Children 1st, to set up the Centre. This partnership funds and manages the Centre for Europe's Children. The aim of the Centre is to promote children's rights in Europe by the development of an information base; the promotion of good practice and policies; and

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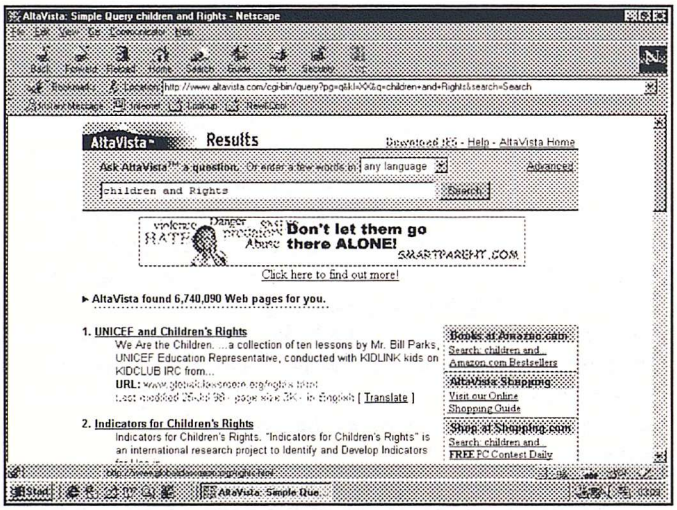
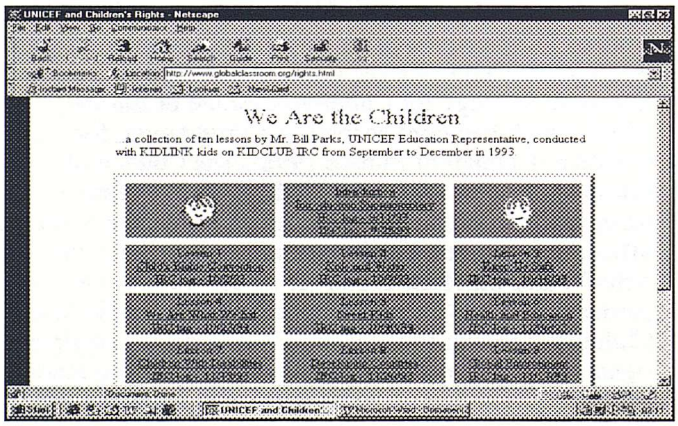
developing networks of policy makers and interested parties to share ideas and information. It was intended that the Centre should provide information electronically because of the potential for methods of dissemination, in particular the Internet, to make information available to a wide audience inexpensively. It is for this reason the Centre for Europe's Children now has an extensive web site (http://eurochild.gla.ac.uk)

In order to actively promote an issue such as children's rights it is suggested that a Centre will need to be more than an electronic library. This means finding ways to influence the policy and practice of those involved with children. This is a major challenge, especially when it is considered that Internet resources frequently target an international audience. For example, the Centre is intended to provide a service across all of the 40 countries which make up the Council of Europe. In the CEC case this wide remit was recognised and the Centre was asked to prioritise the situation of children in Central and Eastern Europe, the Baltic States and the former CIS. The CEC was also asked to focus on children's rights in residential care as well as children's participation in family and social life and the social prevention of the abuse of children. This is still a very wide remit especially when it is considered that in Central and Eastern Europe there are over a million children in state care, many of them living in appalling circumstances.

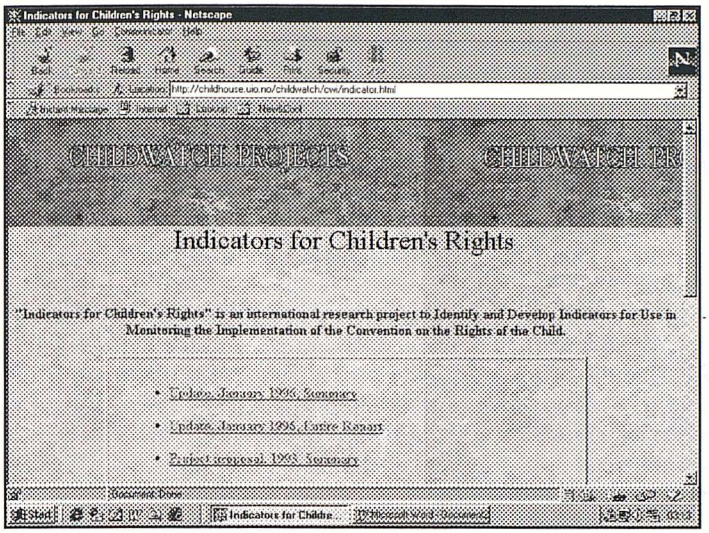
Documentation on children's rights on the web



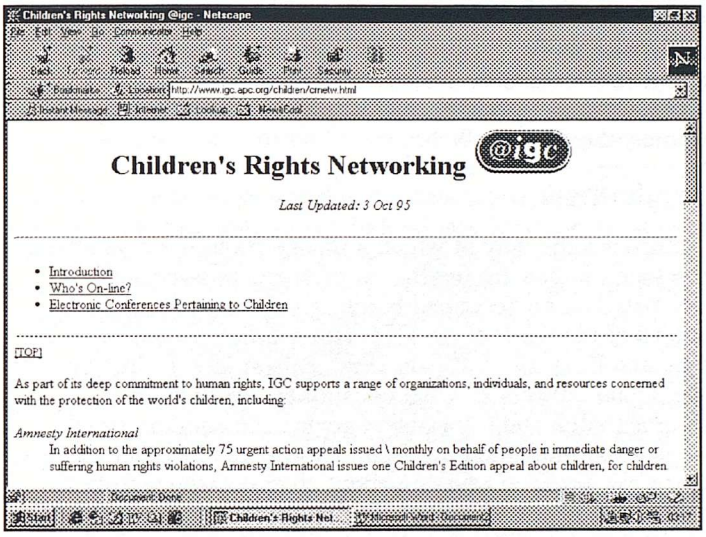
AltaVista found 6,740,090 web pages for you



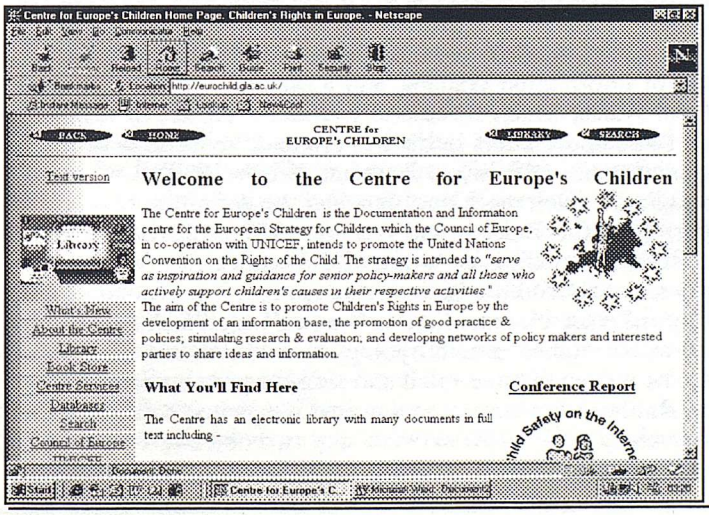
A collection of ten lessons by Mr. Bill Parks, UNICEF Education Representative, conducted with KIDLINK kids on KIDCLUB IRC from September to December in 1993. www.globalclassroom.org/rights.html



"Indicators for Children's Rights" is an international research project to identify and develop indicators for use in monitoring the implementation of the Convention on the Rights of the Child. http://childhouse.uio.no/childwatch/cwi/indicator.html



As part of its commitment to human rights, IGC supports a range of organizations, individuals, and resources concerned with the protection of the world's children http://www.igc.org/children/crnetw.html



The aim of the Centre for Europe's Children is to promote Children's Rights in Europe. http://eurochild.gla.ac.uk

To illustrate the amount of data already available the author undertook a search of the World Wide Web using Alta Vista and was greeted with the following "*AltaVista found 6,740,090 Web pages for you*" There were thus over 6 million web pages registered with this search engine alone. Even in the first page, giving 10 results from the search, there was a bewildering range of issues and perspectives on children's rights.

The diagrams illustrate some of the issues found. For example the first site that was listed is concerned with "*...a collection of ten lessons by Mr. Bill Parks, UNICEF Education Representative, conducted with KIDLINK kids on KIDCLUB IRC from September to December in 1993.*" This site gives details of his approach to teaching about children's rights promoted by UNICEF. The second is Child Watch's "Indicators for Children's Rights" that gives details of "*an international research project to Identify and Develop Indicators for Use in Monitoring the Implementation of the Convention on the Rights of the Child.*" The third site is the Institute for Global Communication's site which states, "*As part of its deep commitment to human rights, IGC supports a range of organizations, individuals, and resources concerned with the protection of the world's children*" and this gives details of campaigns and news of violation of rights. The fourth site is the Centre for Europe's Children's web site of which more will be written later.

These examples obviously do not give a comprehensive picture of the documentation available on children's rights and other perspectives included the "right of a child to have both parents" and so on. However there are clearly many perspectives and this illustrates how even a very unscientific scan of a few web sites can provide an array of documentation. It would never be possible to even map this ever-changing mass of documentation on the Web.

From documentation to information

The paper will now go on to discuss the way in which a theory about information can help to define a role for an attempt to use the Internet to promote an issue such as children's rights. This theory will first be described before going on to discuss its application in the two examples of the work of the CEC (for a fuller discussion of the use of this concept see Bilson and Ross 1999, Bilson 1997, Bilson 1995). 'Information' is a much-used word but the actual concept of what constitutes information is not simple. With regard to a documentation and information centre, information should influence those creating policies and implementing them. Despite the fact that much research and other publications are aimed at bringing about change many simply sit gathering dust on the office shelves of researchers, policy makers, practitioners and in libraries. However research and information can make a major difference to policy and practice and the author has been involved in several situations in which the use of information has been key to changes in social work services (see Bilson and Ross 1999). This includes the use of information systems, and a systems approach to work with offenders in England and Wales, which successfully attacked the use of residential establishments and prison for young offenders leading to dramatic reductions in the prison and care populations during the 1980's (see Ross and Bilson 1989).

It is clear that information is much more than data and the definition of information given by Gregory Bateson (Bateson and Bateson 1987 p.122) is one which is most helpful. Bateson defines information as "**news of difference that makes a difference**". This apparently simple definition hides a concept that is profound. Bateson is drawing on biological research regarding the way in which the sense organs and the mind works, as well as his studies in anthropology and of human communication. Effectively, he argues that the mind and sense organs operate through comparisons or differences. But he is not simply saying that we perceive differences, for as he points out there are many differences between any two objects. There are innumerable differences between an apple and an orange, but the ones which make a

difference will be those of which there is news. For example, if I am blind-folded differences in colours will be less important than the textures, shape, weight, or smell. For there to be news of these differences I must choose which ones to focus upon.

So what is the role of a documentation centre? It is here that the issue of Bateson's definition of information comes to the forefront. In order to promote an issue such as children's rights the following four points based on Bateson's work can give a focus to thinking and planning –

- choose key areas
- identify data
- create news
- make a difference

The web search discussed above illustrates the wide-ranging perspectives and the large amount of data already available. For those wishing to bring about change a clear focus is required. This does not mean that it is not possible to provide an overview of a range of issues, but it is suggested that there is a need to choose key areas on which to focus. The key factor in choosing these issues in terms of children's rights is that of injustice. Key areas should focus on issues that limit the rights of children. Other more pragmatic factors must also be taken into consideration. These include areas in which resource can provide something new, can add value to current thinking or which make best use of available skills and knowledge.

Having chosen key areas the next step is to identify data and documentation and to make this available in as usable a fashion as possible. For many the task of a documentation and information centre would appear to stop at this point. It is argued that this is only the starting point for the work of such a centre. In order to create information it is important that the data which has been gathered is widely used or at least is made available to key individuals. It is important to create news from the existence of the data.This can be done in a number of ways from holding conferences to creating news through the media. Again it could be argued that the role of a documentation and information Centre stops at this point.

It is suggested that still more needs to be done. It is important that this news of difference is in some way helped to make a difference to the issue being worked on, in this case to the quality of life of children and improving their rights. This requires a more action oriented approach with clear links from the documentation to practice. There needs to be more than the provision of documentation. The paper will now illustrate how this can be achieved using examples for the Centre for Europe's Children's work. These examples are not intended to be prescriptive or to illustrate best practice. They do, however, focus on key issues for the promotion of rights of children in Europe

Children in care

The first example of a key area that has been the focus of work carried out by the Centre for Europe's Children concerns children in state care. There are currently over a million children in care in Central and Eastern Europe, many of whom are living in appalling circumstances with very limited rights.The plight of children in care in many parts of Central and Eastern Europe is grim. For example the annual mortality rate of young children in Leagannes (orphanages for children aged 3 or under) in Romania is 25/1000 (DPC 1996). Within Western Europe there are also infringements of rights and many children leave care only to spend long periods in prisons or being homeless. For example in England and Wales the House of Commons second Select Committee Report on Health states "*The consequences may be seen in the extremely poor outcomes for young people leaving care: between 50% and 75% have no academic qualifications, between 50% and 80% are unemployed, 38% of young prisoners have*

been in care, and 30% of young, single homeless people have been in care" (Select Committee on Health 1998 section 313).

In order to provide a resource for those trying to reform child care systems in Eastern Europe a range of data has been identified. This includes making available the UNICEF TransMONEE database which gives information on the effects of reforms on children in these countries in transition and can now be searched on the Centre for Europe's Children's web site (http://eurochild.gla.ac.uk/library/MoneeLibrary.htm). In addition there are reports of conferences and a range of other documents.

In order to move beyond publication, it is also intended to develop a methodology for assessing needed reforms of child care systems in these countries. The Centre is working with a joint UNICEF and World Bank project to develop this analysis tool and to disseminate it through a conference and publication. In addition UNICEF is developing guidelines for self assessment of good practice and these, along with examples of their use, will be made available through a web site planned to be hosted at the CEC. The Centre is also providing technical assistance to the Bulgarian government as advisor to Save the Children UK's project there. This project is funded by the Department for International Development in the UK and is developing policy and practice initiatives in Bulgaria. These include the proposed establishment of a web site database to provide contacts between those running child protection projects in Bulgaria. In this way, as well as reports and advice, the web site will provide a range of different tools and information.

A second focus of the Centre's work in this key area is on the preparation and services provided for children leaving care. A comparative research programme has looked at legislation, practice and policy in preparing children to leave care in a number of European countries and on the services they can receive once they have left (Bilson et al 2000). This report is also available on the web site. It highlights not only the plight of young people leaving care but also positive practices and policies that can be developed. At the same time a resource database on children leaving care is being developed by the Centre and an e-mail discussion forum has been set up in cooperation with the Scottish Throughcare and Aftercare Forum (see the following for details http:/ /eurochild.gla.ac.uk/library/Throughcare.htm). These resources have been developed in cooperation with practitioners and researchers active in this field of work and provide an extra way of sharing and developing good practice.

Sexual exploitation of children

The second key area of the Centre for Europe's Children's work concerns the sexual exploitation of children.There has been increasing sex tourism and commercial exploitation of children in many parts of the world. In addition children are exploited through Internet pornography. This clearly affects the lives of those children involved and, whilst there is a growing issue in many southern countries, in the north children are increasingly drawn into prostitution with, for example, children working on the streets of most major cities in the United Kingdom.

The data that the Centre is making available in this area is extensive.The Centre is hosting the resource centre for the Asia Europe Meeting (ASEM http:// www.asem.org). ASEM consists of the European Union and its 15 member states and 10 Asian states - Brunei, China, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Thailand and Vietnam. This site will provide details of legislation, rules of evidence, extradition treaties and so on with regard to the sexual exploitation of children.

The ASEM site is also intended to be a focal point through which people will be able to contact relevant professionals in other countries. For example, the Centre is developing contacts in the police, social work, judiciary and so on in each of the 25 countries and will be able to put people in contact with these experts in order to

undertake inter-country prosecutions, gather evidence etc. A recent example of this concerns a United Kingdom police force wishing to prosecute a man returning from an Asian country with pornographic videos of children. The Centre was able to put the force in contact with the appropriate police authorities to get the necessary help required for their prosecution.

The Centre has also carried out work relating to the safe use of the Internet and has developed a Child Safety Database which provides details of web sites giving information on filtering systems, advice to parents and children, legal cases and a range of other aspects regarding the safety of children and their use of the Internet (http://eurochild.gla.ac.uk/library/SafetyLibrary.htm).

The programme with regard to Internet pornography was promoted through a conference which had much press and media coverage. Following the conference the Centre was involved in giving advice to a number of local authorities which were developing guidelines for safe use of the Internet. The author was also an adviser to the Scottish Office who have provided advice to parents of all school children on the safe use of the Internet see (http://eurochild.gla.ac.uk/Documents/ChildWelfare/ClickThinking/click.htm).

Building alliances

A final aspect of the Centre for Europe's Children's approach is the building of alliances. The range of work needed to promote an issue such as children's rights is vast and it is only through co-operation and joint action by the many groups working in this field that there is any hope of making a real difference for children. The Centre has built alliances to carry out its work on the key areas given as examples above. For example the work to develop a methodology to monitor child care systems in Central and Eastern Europe mentioned earlier is in cooperation with the UNICEF and the World Bank. The work on information on children leaving care has been developed and funded in association with the Scottish Office and carried out in partnership with the Centre for Residential Child Care. The area of sexual exploitation has been developed with the Asia Europe Meeting and its 26 governments.

In addition the Centre is working with a range of other organisations in the field of children's rights through enhancing their capacity to disseminate information, usually through developing and hosting their web based services. These include EURONET (http://www.euronet.gla.ac.uk) which is a coalition of networks and organisations campaigning for the interests and rights of children, and the European Network of Ombudsmen for Children (ENOC http://www.enoc.gla.ac.uk) which links independent offices for children from eleven countries in Europe. The Centre also hosts the web site of the NGO Focal Point on Sexual Exploitation of Children (http://www.focalpointngo.org) and is working with the Focal Point to use the Internet to strengthen planning for the second world congress on the sexual exploitation of children to be held in Japan in 2001. In the near future new sites hosted at the Centre will include the site of the Separated Children in Europe initiative giving information and practice guidance on this important issue. The Centre also works with the Children's Rights Information Network (CRIN http://www.crin.org) by hosting CRINMAIL CRIN's e-mail discussion forum on children's rights at the University of Glasgow (CRIN still manages the list).

The Internet, by opening channels of communication, provides many opportunities for alliance building and it is important to share the work needed to promote children's rights and to enhance the capacity of the web to be used for positive ends for children.

Conclusion

There are already vast numbers of web pages dealing with many different aspects of most topics including children's rights. This paper has outlined the need to move from an approach based on documentation to one based on information if the Internet is to be used to promote a topic such as children's rights. Such a move not only involves providing data but also work to make it "make a difference". The Centre for Europe's Children is attempting to do this by focusing on key issues – children in state care and sexual exploitation of children. It is providing a range of different services from the development of a tool for analysing child care systems to acting as a focal point for information on the commercial exploitation of children through hosting the ASEM Resource Centre. In this way the work of the Centre moves from simply providing documents to actively promoting changes and developments in policy and practice.

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Co-ordinating care provision: toward sharing case-critical information

by Bryan R. M. Manning

Abstract

The introduction of the Care Programme Approach to improve multi-disciplinary, multi-agency management of severely mentally ill patients in the UK emphasised the need for better and faster communication between all of the parties involved in service provision. Since the various agencies and disciplines involved invariably operate out of a host of different locations, access to key information, especially in crisis situations, can be vital.

The central problems that this situation poses are how to gain secure access from any location to highly fragmented and distributed sets of case records; plus how to restrict this access to 'need to know' information only, when it is often held within highly sensitive and confidential case records.

The approach used has been to develop the concept of a multi-level record with security access controls at each level set by the professional owning the case casenotes concerned. The key issue of identifying specific records within such a 'virtual shared record' uses an index based on an ongoing automatic compilation of all carer diary entries per client within the set of agencies involved.

The system is based on the use of standard groupware tools with access provided over the public switched network to semi-autonomous network servers at key locations which are automatically backed up to a central support server at regular intervals. All carers within the set of co-operating agencies can use a variety of palmtop, laptop or locality based PCs to maintain their professional diaries in the normal way, whilst groupware software automatically cross-indexes all entries to 'virtual client care diaries' which are available to all carers with access to the system.

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Core problems

Whilst Care in the Community potentially offers significant improvement in the quality of life for Severe Mentally Ill [SMI] patients, this radical change has brought with it a major increase in the complexity of service provision (Department of Health, 1989). More resources have to be deployed from a widely dispersed set of locations delivering different components of care often through a variety of different agencies.

In these circumstances quality of care becomes highly dependent both on the effective co-ordination of the care processes involved and on good communication between all concerned in each case. As ever problems arise from the widely differing perspectives, pressures and motivation of all concerned.

These differences are particularly evident when viewed from the respective standpoints of management and the various professions. Whilst both are integrally concerned with the efficiency and effectiveness with which care is provided, the focal points of their interest are radically different. This can be expanded in terms of mutually shared service delivery criteria that comprise [Fig.1]

- Efficacy - ratio of achievable versus un-achievable benefit
- Effectiveness - ratio of achieved versus non-achieved attainable benefit
- Efficiency - ratio of useful versus non-productive care delivered
- Economy - cost containment of useful care

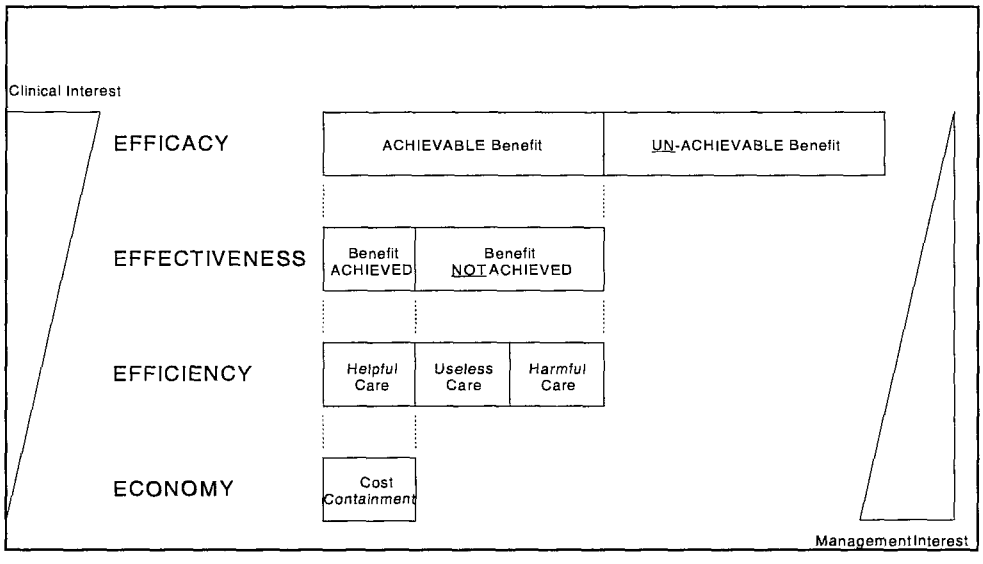

Figure 1: Service delivery criteria

However the difference of both interest and emphasis between management and the professional lies in a complete reversal in their ranking significance.

Although the professions are primarily concerned with achieving optimum outcomes for their patients, provision and use of appropriate resources in the right place at the right time is the prime focus of management attention. As their aims are mutually interdependent the key to success rests with a shared understanding of the processes potentially involved and with the co-ordination of activities across this interface.

Case management criteria

In broad terms all service delivery processes follow the same generic model [Fig.2]. Demand is made up of a variable pattern of case-mix classes, which each in turn sub-divide into groups of varying degrees of presenting complexity. Cases then move through the care process as a result of the deployment and use of a variable mix of both human resource skills and necessary relevant goods and services, stage-by-stage to attain target outcomes (Manning & Glouberman, 1993, Pall, 1991).

At the detailed level the care process consists of a host of different treatment paths (Manning, 1993), with each step requiring an appropriate balance of skill and

service-mixes to proceed effectively. Although this step-wise sequence tends to be iterative at the individual patient level in response to changes in their on-going condition, a distinct pattern or sets of patterns can be identified at an aggregate level (Curtis et al,1992).

Once a detailed knowledge of these patterns emerge significant improvements in case and caseload resource management become possible. In addition to providing professionals with a relatively easy way of provisionally forward-loading their working diaries, this information can also open up an invaluable means of providing Community Mental Health Managers with a rolling view of their future resource loading (Davenport, 1993).

Practical forensic studies have shown that for a specific service demand involving care input from multiple professions there is a high probability that their efforts may be wasted due to a failure in recognising incompatibility between their individual treatment regimes. However, a shared view of the likely activities of the professions concerned brought together diagrammatically can help determine both their interaction and interdependencies and hence lead to more effective co-ordinated care.

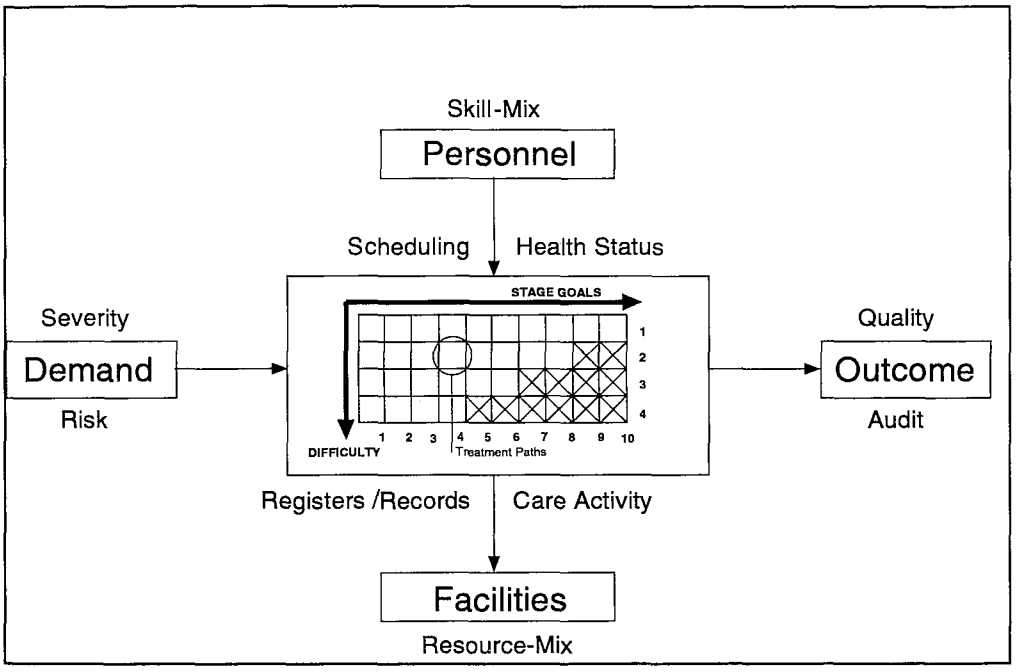

Figure 2: Case management model

These studies have also identified a similar effect that can be triggered as caseloads increase beyond a critical point. The addition of a single new case can then result in a cascade effect causing sudden regression in the condition of a potentially significant part of the caseload. This basically stems from increases in the time delays that occur between successive clinical case interventions [Fig.3].

Whilst caseload activity maintains intervention time delays that allow the treatment benefit decay curve to be intercepted by the rising effect of the next intervention steady improvement is likely to be maintained. However, once these time delays reach or exceed the point where this downward curve reaches or passes the level of the prior starting point net benefit is lost or the patient's condition may worsen.

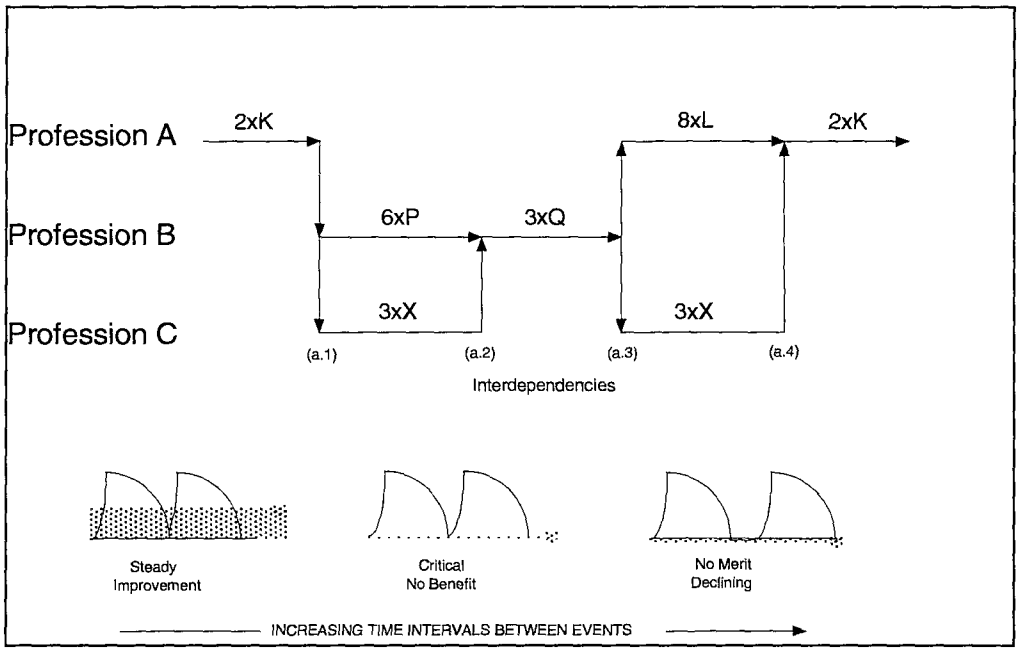

Figure 3: Route sequences and delay effects

Care programme approach

In the UK the National Health Service [NHS] has introduced the Care Programme Approach [CPA] as a means of co-ordinating multi-disciplinary, multi-agency care treatment activity for SMI patients. This is centred on a regular stage review process to agree roles and responsibilities; set targets for each assessed presenting need; and assess all associated risks (Department of Health, 1990).

From an external perspective this is basically an adaptation of the conventional 'case conference' procedure. However, more interestingly, whilst it is also exactly the same as the review process used in project management, it excludes the usual process sequence planning component discussed above.

Enhanced case and caseload planning and management

The transition to the Care Pathway planning approach is however entirely dependent on the introduction of an agreed classification, both for the case-mix components and also for the activity steps that can be used to define the pathway (Manning, 1999).

With these in place professionals can use knowledge of pathway options as an aide memoir to choose either to adopt or adapt the most suitable one from a library, or create a new one from scratch [Fig.4]. The only proviso would be that this should conform to the agreed classification systems, whilst retaining the ability to request additional categories, where confirmed and validated as necessary.

Once established, significant benefits to the busy professional can begin to accrue (Coulson-Thomas, 1994). In particular the regular complaint that they are often unaware of parallel action taken by colleagues from other disciplines or locations, coupled with the resulting lack of relevant key information from these 'hidden' interventions, could be resolved.

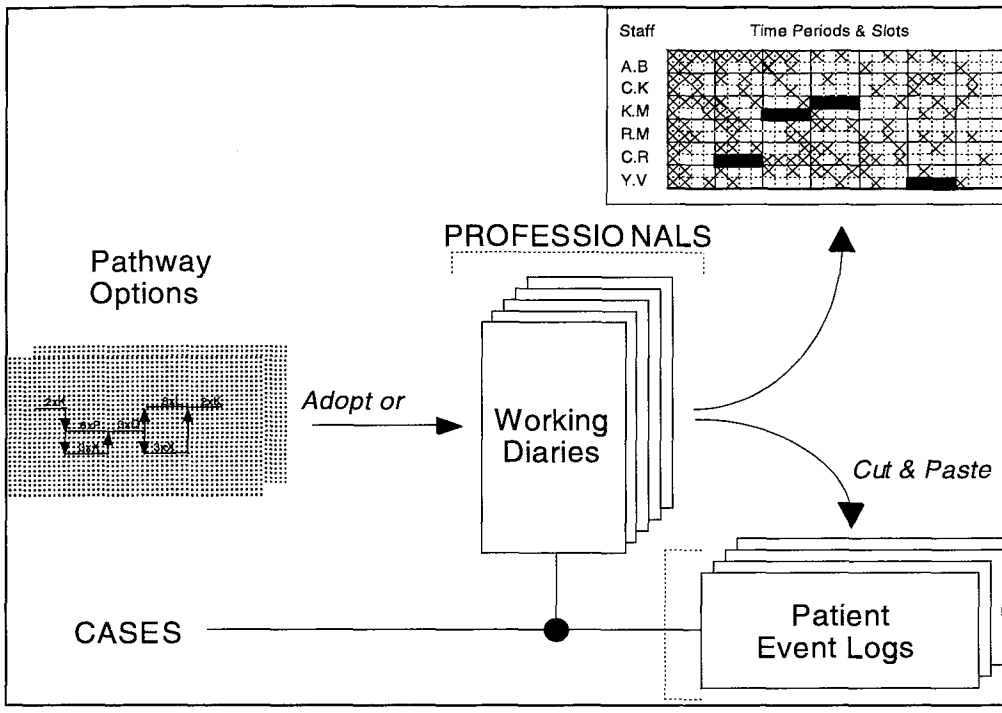

Figure 4: Case/caseload planning and monitoring

The solution to this lies in the recognition that if all case-specific activity is noted in the working diaries of all professional staff, its cross-mapping to each case will form a log of all case-related events. This log in turn effectively forms the index to all potentially accessible casenotes and other case-related records held in a host of widely distributed locations.

Distributed casenote access

The isolation of the index from these sources provides a very valuable access security control feature whilst still providing a short-cut enquiry route. By identifying the time-sequence of all patient-related events it identifies each professional owner of likely sources of useful information without divulging content.

Access to relevant information can then be explicitly controlled by its owner in accordance with their own ethical and confidentiality criteria within and across agency boundaries.

Within any agency the use of an appropriate groupware product will allow the creation of a 'virtual shared record' with multi-layered security 'locks' that can be set by each information owner to protect and control access to professionally sensitive material. As a result the 'rules' for sharing information can be determined and amended, where necessary, between those concerned accommodating professional autonomy issues.

As Care in the Community often demands a high degree of mobility, secure remote access over the public switched network to semi-autonomous network servers at key locations presents its own problems. Whilst great concern is often expressed over the potential for electronic security breeches, in reality these are little different from those presented by paper-based notes which can all too easily be stolen, mislaid or read by the unauthorised whilst in transit either within agency premises or in cars.

Whilst remote access should be via appropriate firewalls and synchronised cyclic key codes, the use of encryption techniques should be decided on the basis of security cost/benefit considerations related to the specific needs of each agency.

An enhanced CPA system

The provision of Care in the Community currently is still largely based on paper based procedures supporting a fairly well defined overall process, within which professionals respond, in the main, to immediate clinical demand pressures. Whilst this is set in the context of goals mutually agreed at CPA Review Meetings, care activity itself is heavily dependent on informal working arrangements.

The aim of the introduction of the processes outlined above is to reduce the problems caused through the non-availability of appropriate resources; of timely access to relevant information; and of lack of effective co-ordination of care activities. It is designed to make effective use of information technology to ease the unnecessary burden that these problems place on hard pressed professionals (Earl & Kahn, 1994).

The complete set of processes and procedures link together in modular structure to create a complete CPA management system [Fig.5]. The 'front end' of the system focuses on the admission/discharge and administrative procedures necessary to ensure compliance with all legislative and service quality requirements.

Whilst this includes a component covering financial responsibilities for costs, it is recognised that the variety of alternative methods in use in different countries form a major subject in their own right, which is beyond the scope of this paper.

The care process components form an iterative cycle driven by the CPA reviews through planning, care delivery, record keeping and reporting.

Referral management

This broadly covers the process of validation that the patient is indeed an SMI case whose apparent presenting condition is dealt with in accordance with all statutory guidelines; the Mental Health Act; and Standing Instructions to ensure a swift and appropriate response. These may range from a Crisis Admission, with or without Sectioning; routing to the Community Mental Health Manager for action/prioritisation and addition to the caseload; or other appropriate special action.

Mental Health Act compliance

This provides a reference resource base for all relevant information on Mental Health law and compliance issues.

Biographic details

This is essentially a two-part process which initially sets up a minimal record of relevant biographic information on the patient, which is supplemented by additional data throughout the case lifecycle.

This approach is preferred, as in SMI cases much care and validation is needed to verify exactly who the patient is, together with other relevant information. Allowing a basic or provisional record to go forward obviates delays and variable records developing.

Assessment cycle

This is carried out on admission and prior to each CPA review and focuses on the identification of all patient-centred needs. In addition the patient's overall Mental Health Status is assessed, usually based on the Health of the Nation Outcome Scales [HoNoS], together with a Risk Evaluation of potential for self-harm or harm to others.

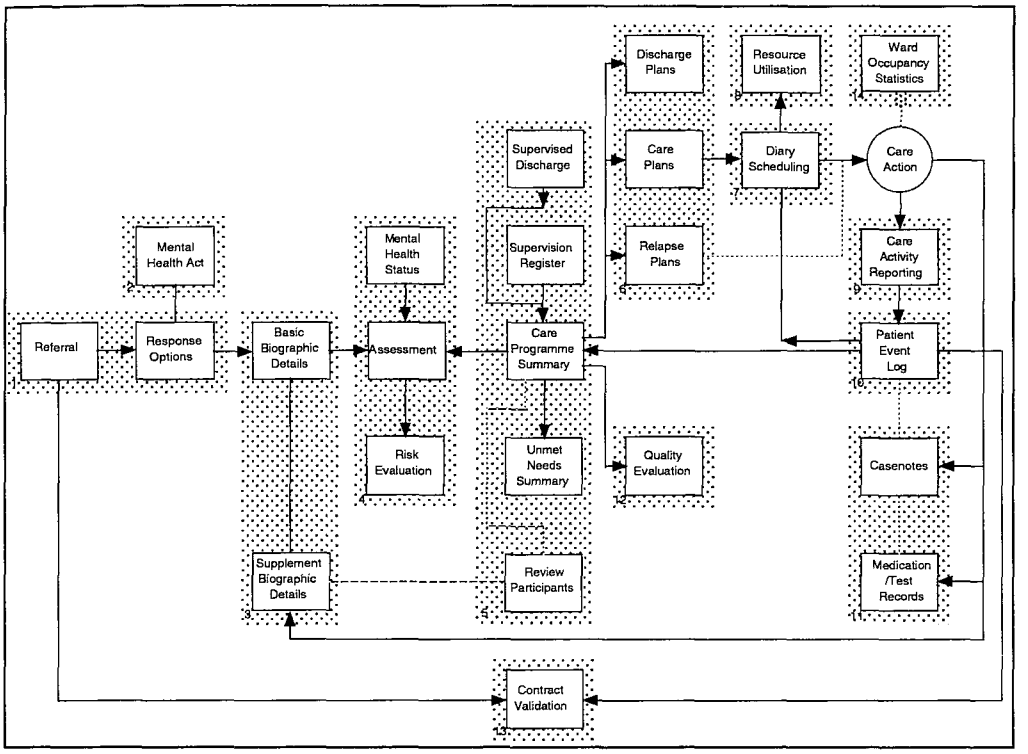

Figure 5: Care programme approach - process and procedures

CPA review

This process is discussed above.

Planning support

Whilst the basis for this is discussed above, care plans should be supported by one or more relapse plans prepared to cover likely potential scenarios using the same basic approach.

Diary scheduling

This process is discussed above.

Resource utilisation

This process is discussed above.

Care activity reporting

This process is discussed above.

Patient event log

This process is discussed above.

Records

These not only include the widely dispersed range of casenotes, but also a range of tests, medication and other records.

Quality evaluation

Whilst this complex and much discussed topic has been included for the sake of completeness, it is considered to be beyond the scope of this paper.

Contract valuation

This process has also been included for the sake of completeness, but is once again considered to be beyond the scope of this paper.

Ward occupancy statistics

These form part of national reporting requirements for Acute patient care. As with most statistics these should be derived from similar planning and reporting disciplines which should operate across the complete care continuum.

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Acknowledgements

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The project was financed by the South Thames Regional Information Department of the NHS Executive who hold copyright to the detailed classification systems outlined above.

Psycho-social needs classification: an aid to identifying best practice

by Bryan R.M.Manning

Abstract

Provision of care in the community for those with both mental health or learning difficulties has tended to use a predominately clinical diagnosis centred medical model, rather than one that readily incorporated the wider psycho-social dimensions involved in most care situations.

Whilst the medical model is fully supported by diagnostic coding standards provided by the International Classification for Diseases and Disorders (ICD-10), the psycho-social domain has no equivalent system. The need to fill this gap became increasingly evident with the introduction of the Care Programme Approach to improve multi-disciplinary, multi-agency case management of severely mentally ill patients across the UK.

This approach focuses on identifying and agreeing the range of clinical and psycho-social needs presented, the measures to be taken and their goals, with all the carers concerned and their client, stage-by-stage. In practice the lack of a structured means of specifying both need and care activities was found to result in considerable variation in its application.

The psycho-social needs classification system has been developed after considerable research into existing conventions and procedures with the aim of providing practical framework standards, not only to aid clear definition of assessed client needs, but also to provide a structure within which to define care activity

Background

The last decade has seen a total switch in the UK from Institutional Care to Care in the Community (Department of Health, 1989). Its prime aim has been to help patients with mental illnesses to live in as close an approximation as possible to a normal life out in society (Department of Health, 1993).

This has been achieved either by full placement and support in the community; or in the more controlled environment of a 'halfway house', where the nature and/ or severity of their illness demands it. In this latter case people live out in the community in the equivalent of 'sheltered accommodation', staffed full-time by psychiatric nurses.

One of the main operational effects has been the expansion and diversification of the range of resources required to provide effective care service coverage,

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together with an increase in the number of agencies concerned. The accompanying demographic impact has meant resources are thinly spread, often over a large geographic area, providing 'walk-in' or visiting services from a host of different locations.

This dispersal adds further problems of effective communication and co-ordination of cross-agency care provision, both at service and case levels. Its effect is magnified in turn at case level, where a variety of professionals from different disciplines are involved whilst often operating in semi-isolation from different bases.

While the prime aim is to generally treat severe mental illness in the community, a fall-back position is maintained to deal with crisis or severe deterioration.This is normally provided within a conventional ward setting, albeit in a secure area of an acute hospital.

In conceptual terms the resulting Continuum of Care (Fig.1) is really very little different from that needed for those suffering from *any* severe health problem.

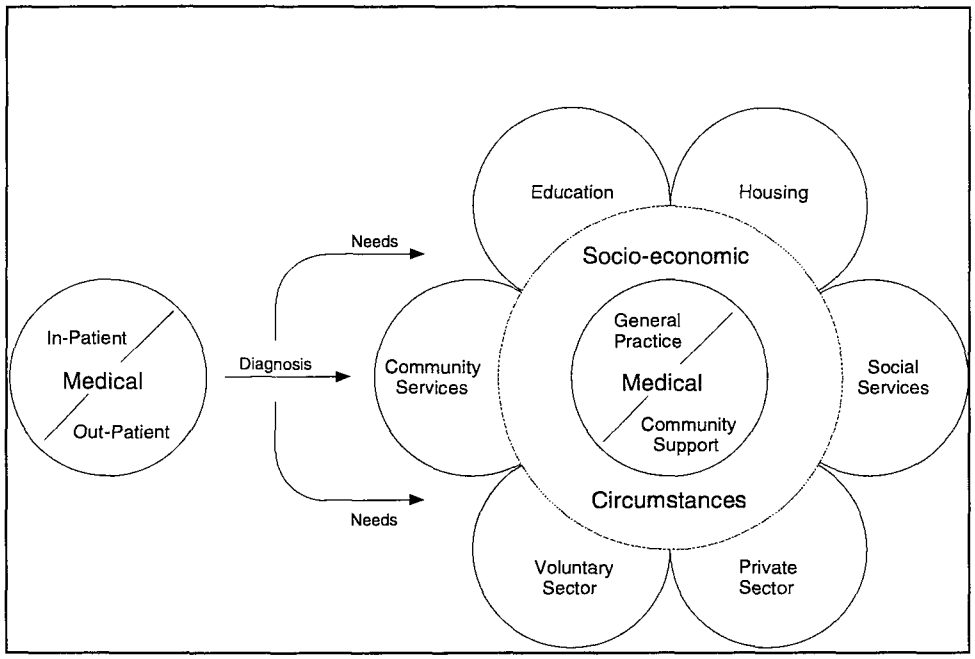

Figure 1: Continuum of care

Sadly the very fragmented nature of healthcare provision generally fails to recognise this. As a result those suffering from physiological diseases or disorders often receive incomplete or disrupted care once discharged back into the community.

The root of this probably lies both in the predominance of a diagnostically focused medical model, incorporating a clear cut transfer of clinical responsibilities between hospital consultant and general practitioner. This model also clearly delineates medical practice away from the socio-economic impacts that flow from the core medical problem and its subsequent treatment.

By contrast psychiatric problems are far more difficult to diagnose and are then even more intractable to resolve. This stems from the interlocking nature of many mental health problems.

From a clinical perspective there is often a cross-linkage between nominally distinct organic and perceptual disorders. This is then tightly enwrapped with a variable

set of psycho-social dysfunctions, partly stemming from behavioural traits that result in social rejection or alienation, which in turn interact back upon their clinical triggers.

Care programme approach

In order to deal with these problems, the concept of the 'case conference' has been adapted and encapsulated within an overall Care Programme Approach [CPA] (Department of Health, 1990). This is now used as the methodology to control and co-ordinate total care service provision for each Seriously Mentally Ill [SMI] patient.

Significantly the CPA is agency and discipline-independent. Although the relevant NHS Trust concerned with each specific case is generally responsible for maintenance of CPA records, lead responsibility for case-co-ordination is assigned, regardless of either discipline or agency, to the most appropriate member of the team involved in planning and delivering the agreed care.

Most interestingly, in practice this role is fulfilled either by a senior psychiatric nurse [CPN] or a social worker. Consultant psychiatrists generally prefer instead to operate in an advisory capacity and, whilst still retaining clinical responsibility, rarely seek to take over control.

The CPA process itself consists of regular staged reviews with all parties concerned present including the patient and/or their advocate/carer. These are always preceded by appropriate 'diagnostic' and current Mental Health Status assessments, which form the basis of the review.

The reviews themselves agree/set target goals and responsibilities, as well as assessing associated risks for each element of the assessment for subsequent review. However, whilst providing an effective framework for collaborative working, there are noticeable issues and omissions.

The first of these is that assessments of need are generally unstructured, often partially or ill defined and sometimes confused with organisational pressures such as discharge to out-patient status to resolve bed blocking. Diagnosis, referenced to ICD 10 coding, once confirmed, is often not linked back to specific drug treatment regimes but used either as a catch-all reference for clinical interventions or as an overall case classification.

Second, whilst the next stage goal/s are identified and responsibility assigned, there is almost never any indication or broad plan of how any goal is to be attained. Sadly, this seems to be based on the ingrained idea that treatment is individualistic and reactive to changing clinical circumstance.

Although this may be partially true, it cloaks a number of inconsistencies that can easily work against, or even negate, good clinical practice. Whilst practice patterns stay hidden, alternative/optimum treatment paths are neither recognised nor shared; practice inter-dependencies between professionals are missed and resulting effort wasted and quality of care compromised; appropriate resources fail to be made available at the right time and place due to lack of timely forewarning.

Whilst over-planning is a snare, its absence is rank amateurism. Despite various views to the contrary CPA is conventional Project Management - partially implemented! The fact that the 'project' is about how best to help a patient overcome a set of highly complex human health and welfare problems sets it above its more mundane industrial counterparts.

Psycho-social assessment of need

The lack of a comprehensive classification of Psycho-Social Need that would allow CPA reviews to standardise/codify presenting need in conjunction with clinical diagnosis has been recognised operationally within the NHS and a variety of potential solutions proposed. Until recently the predominant approaches have been the Medical Research Council's Needs for Care Assessment (Thorneycroft et al, 1992), and the

Camberwell Assessment of Need (Slade et al, 1999), both of which seek to simplify and combine broad psycho-social and medical issues.

An analysis of several hundred SMI case CPA reviews suggested the need for another approach, which would allow a far richer picture to be built up of a patient's needs, as well as providing the basis for subsequent epidemiological research. This base data, combined with input from a representative sample of senior professional staff from both the NHS and other involved agencies, was used to draft a Psycho-Social Classification.This broadly followed the hierarchical approach used in ICD-10, using the ten major categories outlined in Fig.2 below. These are then expanded within each set to define further sub-categories as appropriate.

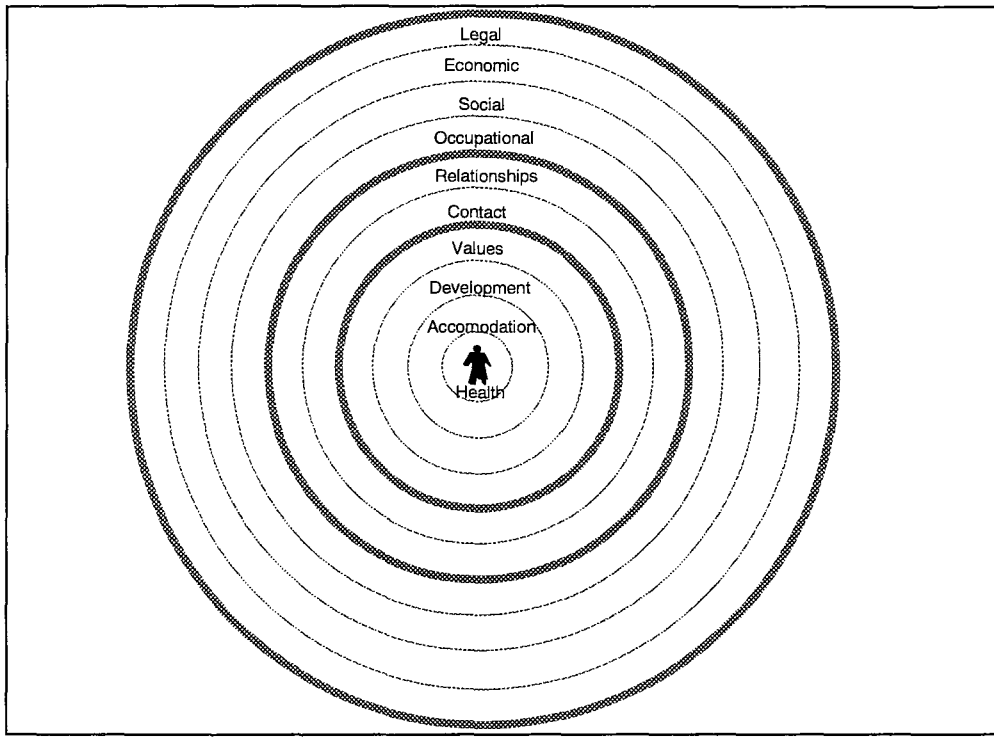

Figure 2: Primary areas of need

The basis of the structure owes a lot to Maslow (1970), with elements drawn from currently used approaches, leavened with a measure of components drawn from a large sample of CPA review findings.

It broadly follows the same hierarchical approach used in ICD-10, which it is intended to support. Whilst essentially a simple structure, the underlying conceptual model consists of three generic domains that nest one within the other like "Babushka Russian Dolls". The basic self-needs of the individual sit at the core, surrounded by the direct interactive-needs related to immediate family/friendship ties; these are in turn set within the wider social needs of living within the bounds of civilised society.

Category definitions follow a set theory approach and encompasses **all** needs within a specific domain, which itself may be fully part of a wider overarching set, but which **cannot** have its defined properties shared across its set boundary.

Activity classification

A similar type of convention is required to define the different elements that can be combined to describe the range of individual steps that map both the planned and actual routes taken to achieve the goals set at CPA reviews.

Luckily most NHS Trusts providing Care in the Community have collected activity data for a period of years, albeit using their own individual local coding schemes of varying complexity. Possibly because the collection of activity data is seen by some as a potential foundation from which to infringe their professional freedom and integrity, gaining a basic consensus on an appropriate framework was far more difficult than for 'Needs'. An additional problem that became evident was the widely diverging views on the levels of detail and timing accuracy perceived necessary for planning and/or recording activity.

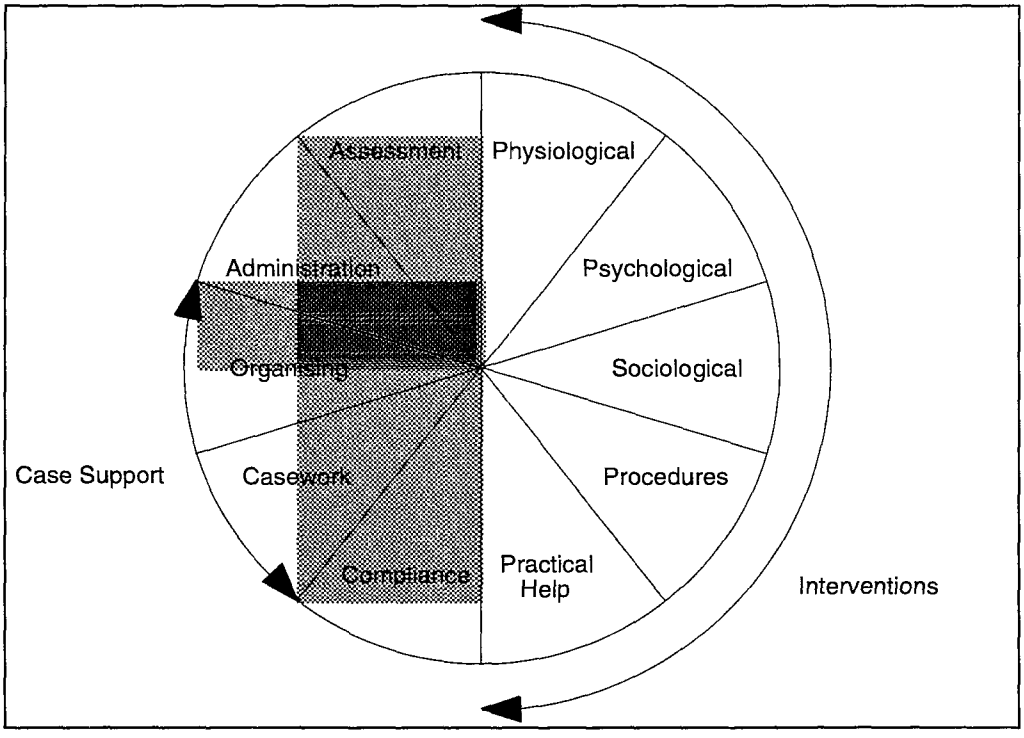

Figure 3: Primary areas of activity

The key point that was so often missed was that the main objective of classification is to provide a shared reference framework that makes planning and indexing professional activity simpler, more consistent, accurate and useful. Detailed 'down to the minute' planning/reporting is professionally and managerially irrelevant, except in exceptional circumstances. Where a multiplicity of different types of activity are naturally involved in a single case-related session it is pointless to 'split hairs', as the input can be related back to the dominant activity, or to a generally relevant 'catch-all' category.

The main aim is to help identify underlying care process patterns as an aid to sharing knowledge of alternative care strategies in current use, and simplifying/ enhancing case planning by and between professionals. Simplified case planning shared effectively will bring added benefits to all. Management will have a better chance of getting appropriate resources in the right place at the right time, and less effort will potentially be wasted through better care co-ordination between professions and

agencies. Similarly, from a record/casenote keeping point of view use of a common classification convention is an aid to better and more effective communication.

Partial recording of activity, although possible, is somewhat impractical and tends to just add further potential complication and dispute. As a result the classification is based on full coverage of daily professional activity. Once again it broadly follows the same type of hierarchical approach used above using the ten major categories outlined in Fig.3, which are then expanded within each set to define further sub-categories as appropriate.

As before the approach used divides into discrete sets of areas across the top level. In this case the prime split is between a single Administration category and all others which are specifically case-related. This group then sub-divides into Interventions, that cover specific types of action; Compliance, which mainly relate either to drug regimes or legal issues; Assessment; and Case Support. This latter item often tends to be ignored in existing systems even though it is a key part of the care process, quite frequently comprising between 30%-40% of time consumed on cases.

Case management measures

Overall, the main factors influencing the satisfactory progress of any case can be brought together diagrammatically as shown in Fig.4 below.

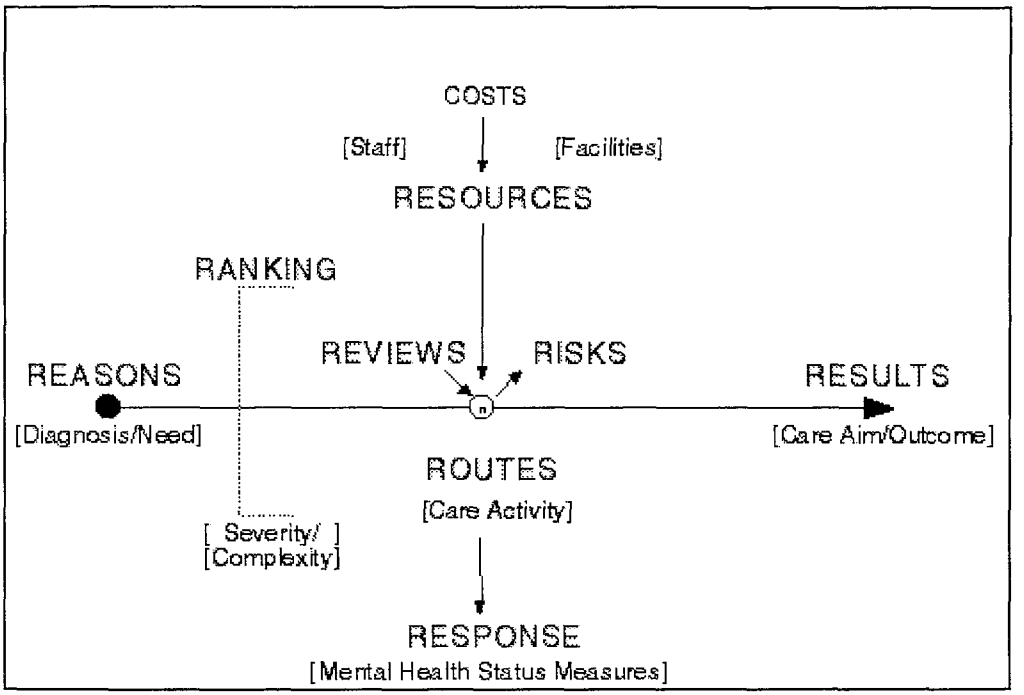

Figure 4: Case management measures

In the overall context of Case Management, classification systems for both Diagnostic and Psycho-Social Need can be used to identify and define the basic reasons that drive the care provision process (Manning & Cramp, 1992).

The relative scale of severity and/or complexity of diagnoses and needs should ideally be given an appropriate ranking at the outset, to be reappraised at each CPA stage review, as this has a potentially significant influence on the pattern of on-going treatment, and thus of the resources and resultant costs.

Similarly, the variety of potential routes that can be taken to either stage or final outcome goals are ultimately dependent on having an effective classification system that allows the care processes to be mapped in a consistent manner. Whilst stage goals are essentially the same for any severity and/or complexity level, the scale and content of treatment process routes taken at minimum double and re-double in turn as the ranking increases

Classifying the target results is however still subject to much debate. The main issue centres around how they should be defined and how they should be related to either the individual reasons for care or the overall Health Status. Where the reason for care is defined, the result really comes down to whether a cure was achieved or a need resolved; or if the condition was either stabilised or ameliorated as specified within the CPA. The alternative is to define a target Mental Heath Status score and measure results against this.

This score can be the discharge or case-closure figure obtained using a Mental Heath Status system such as the HoNoS [Health of the Nation Outcome Score] approach (Wing et al, 1996). Whilst this system partially maps onto the Psycho-Social classification method it is seen by many professionals as a useful equivalent of a "Mental Health Thermometer", giving an overall assessment of the patients response to treatment under the CPA

At each stage review the overall and specific risks are assessed for the patient's potential threat of self-harm or harm to others; non-compliance to prescribed drug regimes; or crisis or rapid deterioration in health.

Mental health status measures

As discussed above the HoNoS approach has become the recommended method for assessing a patient's overall response to treatment stage by stage (Budgen & Manning, 1997). Whilst this is used to assess and score different aspects of the patient's condition, the individual component categories can be brought together into four summary categories, namely:-

A. Behaviour
B. Impairment
C. Symptoms
D. Social

Despite the naming sequence used the practical experience of many professionals indicates that the likely sequence for improvement generally follows the pattern C-A-D-B. This is partly explained by the interlocking and interacting nature of mental health problems discussed in brief above.

Whilst the scores for each component can be reviewed across time on a spreadsheet, most professionals tend to be more interested in monitoring the aggregate figures for these main 'dimensions'.

When these are normalised to a common base, plotted on the four axes shown in Fig.5, and linked up to form a 'radar' graph, the overall position can be readily visualised and compared with its predecessor.

This type of approach is a direct parallel to other physiological monitoring problems, such as Retinopathy and Ulceration, both of which are concerned with the changing shape and scale of a problem area or scab. Whilst an improved, less time consuming, method of photographically mapping these areas has been developed the same type of solution beckons.

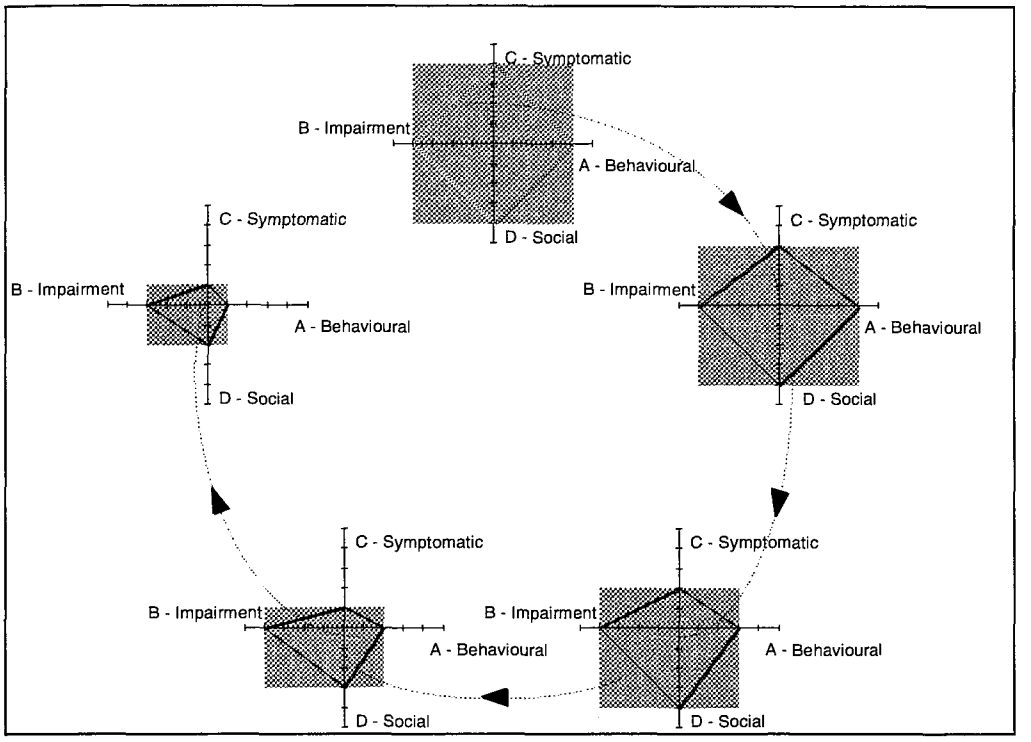

Figure 5: HoNoS - treatment response cycle

The review method is based on using a standard PC presentation package to step through any sequence of 'area-based maps'. This in turn can be enhanced where sufficient sequences of maps are available, firstly by introducing a regular automatic incrementing process that steps through the sequence and then, by using morphing techniques, to dissolve one step into the next. In effect this provides a short animation of the full data set enabling the evolution of the effects of cases to be quickly reviewed.

Conclusions

Whilst this is approach is designed to underpin and enhance the application of the CPA within the mental health care field, it is also seen as having potential for its wider use in the management and delivery of Health and Welfare services.

Its longer term aim is to help provide a far better understanding of the clinical and care processes involved in service provision, as well as providing a sound basis for the development of distributed informatics support systems to widely dispersed teams of multi-disciplinary, multi-agency staff.

Acknowledgements

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Web-based education in a graduate faculty of social work: crossing the new frontier

By Robert MacFadden, Gary Dumbrill, and Sarah Maiter

A preliminary version of this paper was presented at Husita-5 in Budapest, Hungary, on September 1st, 1999.

Abstract

This paper explores the experience of a graduate faculty of social work in developing, conducting and evaluating its first entirely web-based course focused on enhancing the cultural competency of social workers. Content priorities were determined by listing all educational offerings and a range of topics and identifying those topics that have maximum relevancy. A web-based course was developed in collaboration with a 'turnkey' course delivery company to minimize costs, time and required technological expertise. This six week course, supported by two facilitators, emphasized individual and group level goals and incorporated considerable group level activity. Nineteen human service learners participated and the evaluation included a comparison group of 12 graduate students. Using the Multicultural Counseling Inventory or MCI (Sodowsky et al., 1996) that assesses behaviour and attitudes relevant to four multicultural competencies: skills, awareness, relationship and knowledge. Participants who had taken the course and completed pre-test and post-test measures, achieved significant gains in the skills and awareness subscales and on the full MCI as one measure.

Context

Web-based course delivery is still a relatively new phenomenon in social work education, particularly at graduate level. This paper explores the recent experience of a graduate faculty of social work in developing, conducting and evaluating its first entirely web-based course that focused on enhancing the cultural competency of social workers. It includes a discussion of the rationale for engaging in this development; funding issues; selection of content priorities; establishing a development team; the development process, including course objectives, structure, educational methodology and technical and human issues and evaluation.

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Rationale

A fundamental question that arises immediately is, what is to be gained by experimenting with web-based

education? Meta-analysis (Kulik, Kulik & Cohen, 1980) and other studies have generally found no significant difference in outcomes between classroom and Internet learning (Russell, 1998). Indeed, some social work learners enjoy and want web-based learning integrated within their educational environments (Hick, 1999). While some authors have identified numerous benefits of web-based education (Romiszowski, 1997; Khan, 1997; Relan & Gillani, 1997), our reasons were several and based more on promise than existing evidence. Web-based instruction appears to offer: a new educational format which could support a wide range of our educational products; an opportunity to gain experience and provide leadership within social work education; more cost-effective ways to deliver instruction; more flexibility in course delivery where students would have 24 hour access from their homes or workplaces; better use of our enhanced IT resources; an opportunity to involve an interested group of colleagues with some experience in computer-assisted instruction; and possible spin-off effects for our traditional course delivery and onground curriculum.

Funding issues

Financial support for this experimentation was secured from the University's Provost's Technology Fund which supports technological development and innovations. No new technological infrastructure (e.g., server, software) was required since we decided to utilize a 'turnkey' course delivery company (Embanet Corporation) or 'custom online campus', which supplies everything but the actual course content and instructor support. This company, which uses FirstClass software (Softarc Incorporated), provides an existing course structure, which can be modified somewhat to meet individualized needs, server and internet access, programming and 24 hour phone and e-mail technical support in two languages. Choosing this prepackaged type of course structure and delivery system greatly reduced the time to construct, test and deliver the course, which was important since all of the developers were social workers and not programmers or technicians. It permitted more focus on the content, pedagogy and evaluation.

Additionally, the developers had connections with a major provincial association, the Ontario Association of Children's Aid Societies (OACAS), which provides training for child protection professionals. Two of the developers were teaching courses for the Association in cultural competency. The Association was very interested in this development and agreed to support half of the cost. The cost of this was a preliminary set-up charge of $167 US and a cost per student of $27 US. Given this funding grant and Association support, we were able to offer the course to students without cost and to enhance the evaluative component of the course. The three course developers, which included the two facilitators, donated their time so that this pilot course with 19 participants cost about $685 US to conduct. It is estimated that the planning, development, pilot testing and facilitation of this web course consumed about 260 hours of time for all three developers combined. Given that the web course has now been created, future offerings of this course should require less time.

Determination of content priorities

This was one of the first and most significant determinations in the course development process. A matrix of our educational programs and offerings along the horizontal and possible topics on the vertical was developed to systematize our selection. This was one of the first times we had viewed our faculty's offerings holistically, which included our MSW and Ph.D. programs, a diploma program in social work research, two continuing education programs and some special projects. An ad hoc faculty committee reviewed each of the possible topics for relevancy and an 'X' was placed in each square where the topic would be appropriate for the program. At

the end of the process, it became evident which topics had the widest range of relevancy across our programs and offerings. Three topics were chosen as the first offerings for web-based delivery: cultural competency; addictions; and research methods. A web-based course on enhancing cultural competency was selected because it was identified as a system-wide priority, and we had two doctoral candidates who were experienced in this content area and interested in this technological innovation.

Establishing a development team

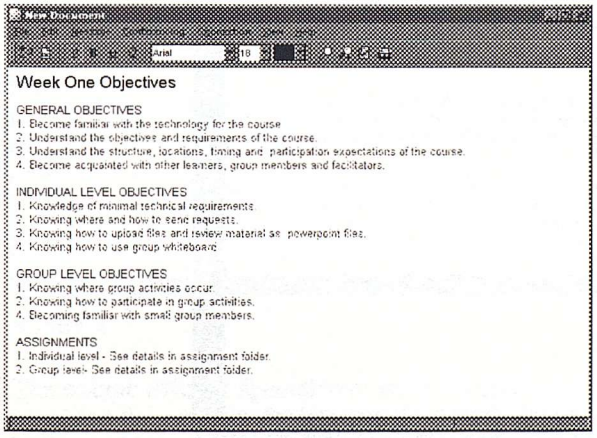
The development team consisted of one faculty member and two doctoral students with ongoing consultation with the Dean, other colleagues and the OACAS. The faculty member had extensive experience in IT and computer aided instruction (CAI) (MacFadden, 1988, 1989, 1999), but not in web-based course development. The doctoral students had considerable experience in cross-cultural practice and teaching cultural competency courses (Dumbrill & Maiter, 1996; Dumbrill & Maiter, 1997), but not in a web-based context. The two doctoral students functioned as the course facilitators and the faculty member provided consultation and evaluation support. All three were involved in course development.

Development process

The development team began with determining that this pilot course would be six weeks in duration; this is not uncommon for a web-based course. Given that this was our first experience, and would occur during the middle of summer, it was decided this length would be most appropriate. The course would also be a non-credit or ungraded experience and was not part of a formal program within continuing education or our credit programs.

Course objectives

A chart with each of the six sessions was developed and overall course objectives and weekly course objectives were identified. As an example, the first week's objectives were largely to introduce the learners to the course and the technology. Initially, a slow pace was essential to ensure that learners were able to understand the nature of the course expectations, experiment with the various course features, and experience early success.This was also the beginning of connecting with the facilitators and other learners. Objectives were framed at the individual and group levels and assignments were targeted at these levels (see Figure 1).


Week One Objectives

GENERAL OBJECTIVES
1. Become familiar with the technology for the course.
2. Understand the objectives and requirements of the course.
3. Understand the structure, locations, timing and participation expectations of the course.
4. Become acquainted with other learners, group members and facilitators.

INDIVIDUAL LEVEL OBJECTIVES
1. Knowledge of minimal technical requirements.
2. Knowing where and how to send requests.
3. Knowing how to upload files and review material se powerpoint files.
4. Knowing how to use group whiteboard.

GROUP LEVEL OBJECTIVES
1. Knowing where group activities occur.
2. Knowing how to participate in group activities.
4. Becoming familiar with small group members.

ASSIGNMENTS
1. Individual level - See details in assignment folder.
2. Group level- See details in assignment folder.

Figure 1

Structure

Learners entered the main course area which was subdivided into nine areas: student biographies; weekly activities; course schedule; small groups; webliography; bibliography; case studies; chat; and course evaluation (see Figure 2). Many of these nine areas also contained sub-areas. "Weekly Activities", for instance, contained six sub-areas, one for each week of the course (see Figure 3).

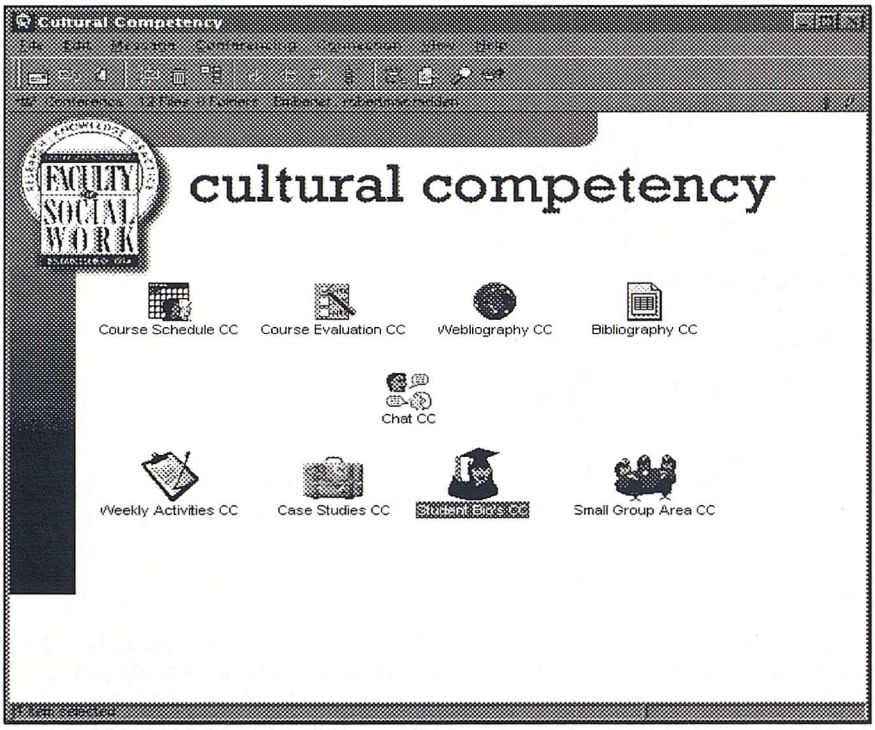


Figure 2

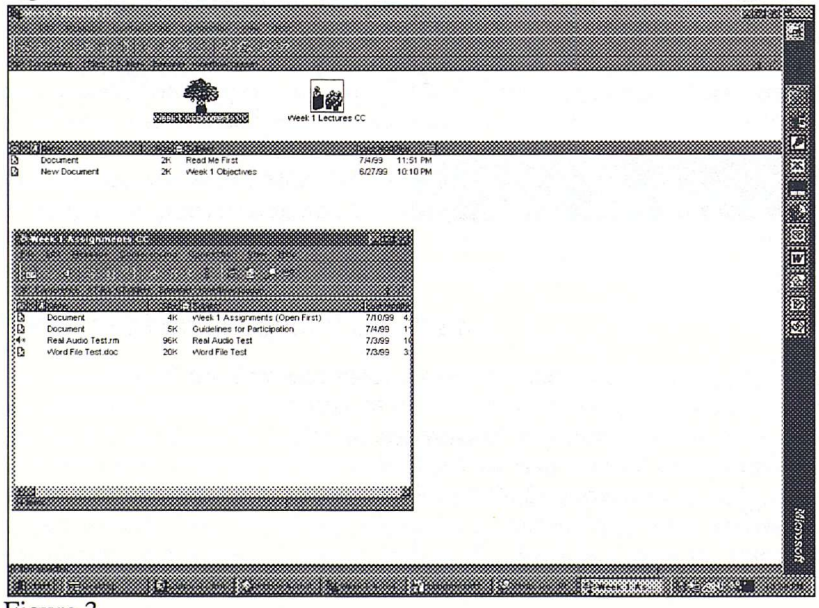
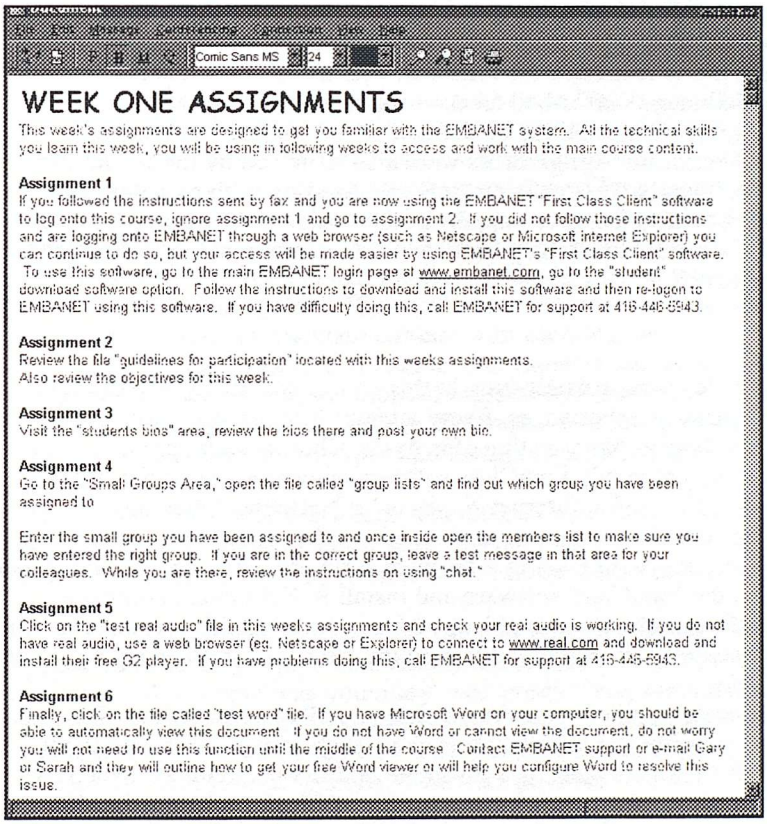


Figure 3

Initially, individual activity involving viewing PowerPoint (Microsoft) presentations supported by RealAudio (RealNetworks) was common, and then learners would explore the internet and other resources and respond to a series of questions. These responses would be posted to a group area for discussion. Typically, there was a group level activity which involved summarizing the discussion and posting the group's response to the main class area.

Learners would review the course schedule to see what the topic was for the week and then sign into the weekly activities area. This would provide a list of what was to be accomplished individually and as a group. Learners had access only to the current week's assignments (see Figure 4). This kept the focus on the current week's priorities and prevented learners from outdistancing each other and weakening the group experience. Each week ended on a Tuesday evening and the new content and assignments became available Wednesday morning. This mid-week design emphasized significant weekend work on the course which was common for users. All learners were asked to sign on regularly throughout the week to ensure ongoing activity and completion of assignments.



WEEK ONE ASSIGNMENTS

This week's assignments are designed to get you familiar with the EMBANET system. All the technical skills you learn this week, you will be using in following weeks to access and work with the main course content.

Assignment 1
If you followed the instructions sent by fax and you are now using the EMBANET "First Class Client" software to log onto this course, ignore assignment 1 and go to assignment 2. If you did not follow those instructions and are logging onto EMBANET through a web browser (such as Netscape or Microsoft Internet Explorer) you can continue to do so, but your access will be made easier by using EMBANET's "First Class Client" software. To use this software, go to the main EMBANET login page at www.embanet.com, go to the "student" download software option. Follow the instructions to download and install this software and then re-logon to EMBANET using this software. If you have difficulty doing this, call EMBANET for support at 416-446-8943.

Assignment 2
Review the file "guidelines for participation" located with this weeks assignments.
Also review the objectives for this week.

Assignment 3
Visit the "students bios" area, review the bios there and post your own bio.

Assignment 4
Go to the "Small Groups Area," open the file called "group lists" and find out which group you have been assigned to

Enter the small group you have been assigned to and once inside open the members list to make sure you have entered the right group. If you are in the correct group, leave a test message in that area for your colleagues. While you are there, review the instructions on using "chat."

Assignment 5
Click on the "test real audio" file in this weeks assignments and check your real audio is working. If you do not have real audio, use a web browser (eg. Netscape or Explorer) to connect to www.real.com and download and install their free G2 player. If you have problems doing this, call EMBANET for support at 416-446-8943.

Assignment 6
Finally, click on the file called "test word" file. If you have Microsoft Word on your computer, you should be able to automatically view this document. If you do not have Word or cannot view the document, do not worry you will not need to use this function until the middle of the course. Contact EMBANET support or e-mail Gary or Sarah and they will outline how to get your free Word viewer or will help you configure Word to resolve this issue.

Figure 4

The course offered specialized areas for different purposes. A student biography area provided the opportunity for learners to situate and introduce themselves to other learners. This included a short autobiography and some added a picture. This was an

especially useful area at the beginning of the course and a useful reference area for other learners to consult during the course.

A webliography area provided a list of related web sites that learners could click on and visit which were related to the content area and assignments. Learners were encouraged to add to this list and to share sites with others. Similarly, the bibliography section contained references to books and articles in this area, and at least one full-text article was available, on-line, within the course.

A case study area contained two case studies that were referenced within assignments. A chat area provided a chat function at the level of the whole class. Individual group areas had chat functions solely for each group. The course evaluation area contained a mid-term evaluation form.

The small group areas were the most significant locations for student activities. Students posted messages, shared URLs or website addresses, scheduled chat sessions, and developed group responses to assignments.

Educational methodology

Web-based instruction (WBI) has been characterized as student centred with much of the instruction occurring in small groups (Badrul, 1997). Instructors become more facilitative rather than directional. WBI has also been described as a more constructivist, open and collaborative approach than traditional instruction. While WBI courses provide a framework, some content, assignments and directions, much of the learning occurs through exploration and working with others. The learning paths are likely more diverse and individualized with WBI than with traditional models.

In this course facilitators performed an enabling role, assisting students to understand the structure and expectations of the course, promoting discussion, interaction, analysis and critique. Assignments were also reviewed by the facilitators and commented on. Facilitators were problem-solvers, assisting with technical and content questions and providing positive support as the course progressed. Facilitators were required to make some in course adjustments, such as reorganizing groups and revising a few assignments.

Technical issues

For most human service learners, participating in this course was likely one of their most technologically intensive experiences. Every attempt was made to reduce the complexity and skill involved in participating effectively. Choices were given to students to either use the company's FirstClass software client or one of the two standard browsers (i.e., Microsoft's Internet Explorer or Netscape's Navigator). The FirstClass client was preferred since it was tailor-made to the course and contained a few functions that were not possible using a browser software. However, students had the option to download the FirstClass software and install it. For novice computer users, this process could present some problems. Most who tried this were successful, although there was some drop-off initially, which might have been influenced by some early technical difficulties.

Generally, the course avoided requiring advanced skills and hardware. The most sophisticated applications were the use of a slide show with sound (i.e. PowerPoint and RealAudio). Initially, learners were also given the option to read the content as a word processing document in case they experienced any difficulty with RealAudio. Students, however, had a range of word processors and some had difficulty accessing the freeware viewers. To address this issue, all word processing documents were converted to an e-mail format that could be downloaded as required by the learners. Where graphics were involved, word processing documents were converted to HTML and provided as web pages. The course required rapid responses to these issues to

avoid disenfranchising learners who did not have the more sophisticated knowledge or skills.

Other technological issues included: some confusion over how to send messages; the different characteristics of the browser software and the FirstClass software; a few hardware conflicts with the software; internet connections; and some specific functions within the software. The 24 hour online and telephone support was useful, but the facilitators found that some learners needed to be encouraged to utilize this support. One learner said she "...needed help to understand the help". As a result, facilitators found they were sometimes offering technical support themselves and acted as advocates for the learners in securing additional assistance from the courseware company.

Learners differed in their access to the technology. Some could only access the course from their work or home, while others had access in both places. Being limited to one location reduced the flexibility regarding hours and location characteristic of WBI.

Human issues

Orignally, 38 students were registered within the course and 27 students logged on. Three of the 27 signed on but did not participate, and 24 commenced the course. At the end of the course 19 students were participating.

There were several challenges for learners taking this course. A major issue concerned its significant technological nature. Given the newness of the technology and course, each requirement had to be clearly explained and monitored. The earliest stage was perhaps the biggest hurdle, since new learners had to manage both hardware and software issues, and course related requirements. Most of the learners were social workers who were at different stages of familiarity with IT. It thus took considerable courage for many to agree to participate and be willing to struggle with the technology in front of an audience. The remarks of some when they finally reached the course and submitted their biographies were similat to explorers reaching the New Worlds: "Well, finally I made it", "Wow! I can't believe I finally figured this thing out! I am not a computer specialist by far." The facilitators watched for expressed problems and tried, wherever possible, to maintain contact with each learner.

The content area of this course was valuable and most learners were very keen participants. However, as the topic of cultural competency in itself can be emotionally charged, it was important to ensure the course was rewarding and safe for all learners. The use of language, stereotypes and self-disclosure could be problematic if not handled well. An initial assignment for learners was to review an outline that detailed expectations for a safe classroom. Facilitators monitored discussions and were ready to gently mediate or steer discussions if safety guidelines were not followed. For learners with concerns, opportunities for private discussion with facilitators were available.

The initial no-show rate of 37%, and drop-out rate of 21% are of concern, and appear considerably higher than traditional courses. This is probably related to such factors as: the course was voluntary; non-credit; free; conducted within the summer vacation period. Some drop-out might be related to technical or other structural problems encountered by learners, and this is currently being explored by the evaluators, with former learners, wherever possible.

Course evaluation

The course was evaluated in several ways. An initial package was sent to participants explaining the study and included a consent form, a demographic and background form and the Multicultural Counseling Inventory (Sodowsky, Kuo-Jackson, Richardson, &

Corey, 1998; Sodowsky and Impara, 1996) or MCI. The MCI is a standardized, 40 item self-report inventory that assesses behaviour and attitudes relevant to four multicultural competencies: skills, awareness, relationship and knowledge. Higher subscale scores reflect great multicultural competence in the specific subscale area. Just prior to the end of the web course, a second copy of the MCI was mailed along with a final evaluation form for all participants. The demographic form contained questions about computer and Internet experience, work experience, cultural competency knowledge, professional background and education.

A pre-test, post-test, non-equivalent comparison group design was used for this evaluation. A 'no treatment' comparison group of students who were taking summer courses at the faculty was established through advertising a small honorarium for participation. These summer courses did not focus on cultural competency although there might have been some consideration of this topic in the content and process. However, there was no specific training in cultural competency for this comparison group. These students were not enrolled in the web-based course but were willing to complete the demographics and background form and the MCI. They also completed the MCI at the same time the course ended.

A no-treatment comparison group provides information on the extent to which non-training factors such as history and testing might have been associated with significant gain in multicultural competency. Is it possible, for instance, that there might normally have been gain in multicultural competency for many students taking these summer courses? The occurrence of an unusual related event during this time period might have resulted in more focus on and gain in cultural competency for learners (i.e. the history effect). Completing the MCI itself might sensitize learners to the importance of this area and result in enhanced interest and learning (i.e. the testing effect). The comparison group provides a point of reference for any gains made by the web course participants.

Description of the final sample

Given data collection problems associated with securing two completed responses (T_1 and T_2) to the MCI by both the participants and the comparison group, the final sample size for this analysis was reduced to 8 and 12, respectively. Although this sample size limits generalizability of the findings, it was possible to examine differences within groups and between groups.

An independent samples t-test was computed to compare the demographics between the participants and comparison group members.

The mean age of the participants ($\underline{M}$=46.50, $\underline{SD}$=12.08, N=8) was significantly older than the mean age of the comparison group ($\underline{M}$=35.75, $\underline{SD}$=7.33, N=12), t(18)=2.49, $\underline{p}$=.023.

The mean years of experience in social services for participants ($\underline{M}$=14.25, $\underline{SD}$=7.89) was significantly higher than the mean years experience for the comparison group ($\underline{M}$=6.50, $\underline{SD}$=5.04), t(18)=2.70, $\underline{p}$=.015.

Educationally, for the participants, the highest attained levels were: 87.5% (MSW) and other (12.5%). For the comparison group, the levels were: 50% (BA), 16.7% (BSW) and 33.3% (MSW).

None of the participants were students while 66.7% of the comparison group identified themselves in this category and 33.3% of these students identified themselves as Ph.D. candidates.

For the participants, experience with the Internet was self-assessed as follows: 50% (novices), 25% (intermediate), and 25% (very experienced). For the comparison group, the self-assessment was: 16.7% (no experience), 25% (novice), 58.3% (intermediate). Experience with computers for participants was self-evaluated as 37.5% (novice), 37.5% (intermediate) and 25% (very experienced). For the

comparison group, the levels were: 8.3% (no experience), 25% (novice), and 66.7% (intermediate).

For participants, this was the first course on diversity for 25% and it was the first course on diversity for 66.7% of the comparison group.

In summary, one might have expected younger and hence less experienced social workers to be most interested in this web-based course since they might likely have more skill and comfort in using the technology. This does not appear to be the case with these learners. The participants, generally, are older, more experienced in social services with higher levels of education and had taken more courses focused on diversity than the comparison group. While there are some differences related to computer use and internet experience, a pattern is not clear.

Analysis

An independent samples t-test was calculated to compare the pre-test scores on the Multicultural Counseling Inventory for both the participants and comparison group.

A comparison of web course participants' and comparison group members' pretest scores on the multicultural competency inventory

	pre-test participants N=8		pre-test comparison group N=12			
Subscales	M	SD	M	SD	t	df
Skills	36.13	5.11	34.75	4.50	.62	18
Awareness	29.25	6.34	27.58	5.71	.60	18
Relationships	23.88	3.18	22.50	5.71	1.02	18
Knowledge	36.38	5.95	27.75	3.31	3.73**	18
Full Scale	125.63	14.88	17.58	13.92	1.22	18

**p<.01

Table 1

As indicated in Table 1, while the web course participants started with slightly higher MCI scores on all scales, only one subscale was significantly different. Participants scored higher levels of multicultural knowledge than did the comparison group.

When the Post-Test MCI scores were computed for both the participants and comparison group, using an independent samples t-test, the scores for the participants were higher on all scales and significantly different on two dimensions. The knowledge subscale remained significantly different but participants scored significantly higher than the comparison group on multicultural skills.

Table 3 presents data from a paired sample t-test that highlights the pre-test and post-test mean differences for both the web course participants and the comparison group. Those who had taken the web course experienced statistically significant gain on three of the five subscales: multicultural skills, multicultural awareness and the full scale. For the comparison group, significant gain was achieved only for the knowledge scale of the MCI.

When the effect size was calculated at post-test for the full MCI scale for the participants and comparison group, a large effect size of .8 was found:

ES=Participant's Mean-Comparison Group's Mean/Population Standard Deviation or 132.25-120.08/15.23 or .8 .

A comparison of web course participants' and comparison group members' post-test scores on the multicultural competency inventory

	post-test participants N=8		post-test comparison group N=12			
Subscales	M	SD	M	SD	t	df
Skills	39.88	2.42	35.42	5.14	2.28*	18
Awareness	32.38	5.07	28.17	5.65	1.70	18
Relationships	28.63	4.21	22.92	3.50	.41	18
Knowledge	36.38	6.65	30.58	3.66	2.53*	18
Full Scale	132.25	13.88	120.08	15.11	1.86	18

**p<.05

Table 2

Mean differences between pre-test and post-test mci scores for web course participants and comparison group

	participants N=8				comparison group N=12			
Subscales	M Diff	SD	t	df	M Diff	SD	t	df
Skills	3.75	4.46	2.38*	7	0.67	2.90	0.80	11
Awareness	3.13	2.70	3.28*	7	0.58	3.40	0.60	11
Relationships	-0.25	3.15	-0.22	7	0.42	2.07	0.70	11
Knowledge	0.00	2.39	0.00	7	2.83	2.98	3.29*	11
Full Scale	6.63	6.74	2.78*	7	2.50	7.67	1.13	11

*p<.05
**p<.01

Table 3

Discussion

When a comparison was made between the two groups after the web course, participants maintained the significantly higher knowledge scores that existed prior to the course, but they did not increase this knowledge over the course. Participants did, however, achieve significantly higher scores in the multicultural skills area. When differences within each group were explored, the web course participants gained

significantly in skills, awareness and across the full MCI scale. The comparison group, without the influence of the web course, improved their multicultural knowledge significantly. It was to be anticipated that the participants would not gain in multicultural knowledge. The web course focused more on encouraging skills, awareness and relationships. Additionally, the participants started out with significantly higher levels of knowledge and more courses on diversity than the comparison group. There may have been less room for participants to gain in this area.

It is encouraging that participation in this newly developed six week web-based course was related to some improvements in multicultural competency. The lower course completion rate and small final sample would suggest caution in assuming that these improvements would have been the same for the larger initial sample of participants. Additionally, the comparison group, without benefit of the web course, improved their multicultural knowledge significantly over the same time period. This may have been related to the fact that although the summer courses were not explicitly focused on multicultural competency, there is an emphasis on diversity within many of these courses.

Crossing a new frontier entails some risks and raises issues. The development team was impressed that a web-based course could be constructed and delivered in such an economical manner. Even if an instructor's salary was included, the cost of the course would be more than covered by light to moderate registration. Given the turnkey structure and existing technical support, the level of technical expertise required by the course developers was not excessive, which means that more faculty members might be willing to become involved. One approach to courseware development would be to have small groups of interested faculty with substantive expertise develop web-based courseware, without requiring significant new funding or special technical expertise. On the basis of this experience, this could occur, especially if supported by the few colleagues with some experience.

The results of this evaluation will be reviewed to determine whether this web-based course will become part of continuing education within the faculty and may eventually be enhanced and reviewed for full credit status within our existing MSW/ Ph.D. programs. This incremental approach permits refinements and building in-house expertise and resources necessary for the survival of this new educational initiative.

The drop-out rate was the most serious issue and it is difficult to know how much of this is related to the timing (i.e. summer), voluntary, free and non-credit nature of the course. How much was related to problems with the technology, course design and/or educational methodology? For instance, this new, web-based, student-centred, constructivistic approach to learning may not be desirable for certain individuals or groups. In a recent article on web-based learning in China (Wong & Law, 1999), the authors describe how features of this new learning environment, such as the active learning, individualistic nature, emphasis on written English communication, and lack of structure related to timing and location, may not be received well by those comfortable with more traditional learning methods. Indeed, given the diverse nature of social work learners in general, a number of the features of this new web-based learning environment may not be attractive or appropriate for many learners. Only one of the participants expressed an unwillingness to take another web-based course, noting, "I definitely need face-to-face contact".

Another issue for web-course development involves the political attitude towards this approach to learning. Certain universities and/or professional accrediting associations may not have established a policy towards accepting web-based courses or may not yet accept them as credit towards an existing degree or qualification. While it may be possible to begin with non-credit offerings to establish experience and supportive evidence within an institution, problems in formal acceptance at the credit level may delay the development and availability of this alternative. In some institutional

circles, web-based instruction still needs to establish its credibility and equivalency related to more traditional forms of education.

In conclusion, the developers of this first, web-based course experienced a sense of excitement from crossing into substantially new educational territory that was also reflected in the personal experiences and language of many of the learners. Preliminary data indicates that this experience was significant and positive for these participants. More research is needed to determine how best to design, deliver and optimize this new approach and to identify its appropriateness for a range of learners and purposes.

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Free access to new media technologies:closing the knowledge gap

By Barbara Maier and Professor Dr.-Ing Hermann Kull

Abstract

In today's society the ability to make use of the new media is increasingly important. This ability includes a lot more than just being able to use technical equipment. An essential aspect is the critical, innovative and productive use of the new media. It is not possible to develop these other abilities solely through skills training, on computers or the internet, but skills teaching needs to be integrated into a social and communicative context. It is also increasingly important to include everyone in this process, to promote equal opportunities and not social exclusion. The paper describes one German initiative to address these issues with young people.

Introduction

We would like to emphasise that this paper refers to conditions in Germany, though some elements will be transferable to other countries and cultures. The basis of the paper is the experience and research undertaken in the region of Esslingen which is a town in Baden-Württemberg, Germany. Esslingen has approximately 90,000 inhabitants of whom ten per cent are of secondary school age. (http://www.esslingen.de)

Knowledge gap

The term 'knowledge economy' has given rise to a number of related concepts one of which is the 'knowledge gap'. This term is often used within the business sector to describe the situation when staff are failing to find ways of dealing with handling the exponentially rising data and information they hold and are receiving. To close this knowledge gap business needs to address their information and knowledge management processes.

Knowledge gap also means the gap between the different sectors of a population. We have citizens with differing social-economic status and education. It appears that people with higher social-economic status have better information handling skills than people with lower social-economic status. In today's society the ability to use new media technologies and the resultant information is increasingly essential. Not long ago only a small part of the workforce needed knowledge of the

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use of computers and multimedia. Those were specialists in the area of information technology like programmers, software developers, network administrators etc..

Information society – knowledge society

Today there would be no employment without these new technologies and they are increasingly penetrating into people's personal lives. The society is changing to an information and knowledge society. In the near future the use of the computer and the Internet will become the norm; and also the access to most sources of information. Having a lot of information does not automatically mean one has a lot of knowledge. One very important fact is that individuals need to learn the process of synthesising information to become knowledge, and the first step is to enable everyone to have access to the new technologies.

The situation in Germany

It is taken as read that it is the function of our schools to train young people for these requirements. The German Government has spent a lot of money to enable schools to take on this task. The Federal German Ministry of Education and Research (BMBF) and Deutsche Telekom AG launched a social initiative to introduce multimedia technologies in schools by establishing the association 'Schulen ans Netz' in April 1996. The aim of this association is to establish firmly the new media and the use of the Internet as an integral part of day-to-day teaching in schools (http://www.san-ev.de/default_en.asp). Approximately 170 Million DM has been provided to schools for this purpose.

Currently, due to investment, 10,000 schools are connected to the Internet. Although these are high figures they don't tell us anything about the quality of use. Most schools have enough computers but not enough teachers and/or an old-fashioned curricula. Often higher level schools have more equipment than lower level schools. Some parents who see the discrepancy between pretension and reality put their children into private computer schools. But this is a very expensive undertaking and only a few families can afford this. We run the risk of getting a society of 'information user' and 'information loser'. So we need another way to give equal opportunities to all young people.

Computer Clubhouse Esslingen

The Computer Clubhouse Esslingen (CCE) (http://www.cce.fht-esslingen.de) was founded in autumn 1996 at the University of Applied Sciences in Esslingen (FHTE) (http://www.fht-esslingen.de), following an idea taken from the MIT-Media Laboratory (http://www.media.mit.edu) in the USA. It is the first and only institution of the kind in Europe. Currently there are eight Computer Clubhouses world-wide.

"The principle aims are:

- *strengthening young people in a non-school learning environment*
- *improving their ability to be successful members of the economy*
- *enhancing their explorative activities in the world of new technology and*
- *researching the possibilities of applying 'animating didactic' (Animative Didaktik) in conjunction with new media and digital technology" (Maier B & Zanger O M et. Al. 1968).*

10 - 16 year olds from the region of Esslingen can use the Computer Clubhouse in order to gain experiences in handling new technologies and media for their own interests. In an atmosphere of respect and trust participants can design their own computer graphics, robots, computer-controlled devices, video films, interactive

newsletters, music, science simulations, multimedia presentations and animations, by using high-end software.

The Computer Clubhouse offers a creative and safe after-school learning environment where young people from under-served communities work with mentors to explore their own ideas, develop their skills and build up confidence in themselves by the use of technology. They are mentored by students, trainees and volunteers of every age (14 – 75 years). The mentors support the members by providing role models, including educational, social and technical know-how. They animate and support the members in their motivation to create and to follow their ideas. This is the Computer Clubhouse's way of preventing an ever widening knowledge gap.

Free access

Free access to new media technologies means primarily that money should not determine access to new technologies. To give young people, and especially young people from under-served communities, a real chance to participate in technical and social development, the Computer Clubhouse's fee is very low. They have to pay only 15 DM per year for insurance. Although we have very large problems with getting enough funding, we find it important to keep that fee for young people as low as possible.

We want to encourage industry and businesses into social responsibility. Therefore we try to finance the work of the Computer Clubhouse Esslingen through business sponsorship.

Free access also means no 'know-how' barrier. All young people are welcome. Young people with no previous knowledge in handling computers are invited, as well as young people who have previous experience. Specialists also find a home in the Computer Clubhouse.

Free access means no gender barriers. It is well known that women and girls have a different approach to technology than men and boys. Empirical studies have established that only a small percentage of girls actively use new technologies such as the Internet. In the light of our previous discussion that media competence is a prerequisite for active participation in today's society, we devote special attention to making these competencies accessible to girls. Through the introduction of a 'girls' day' we were able to double their participation in the Computer Clubhouse Esslingen (from 20 to 40%). On the girls' day only female mentors are present, who function as positive role models. With the girls' day we want to facilitate the entry of the girls into the technical world. The aim is to make girls feel as self-assured and free in mixed groups as they do on the girls' day.

Free access means no limitation in using the applications. At the Computer Clubhouse we only use standard software; special children's applications are not used, because these offer only limited features and young people reach the boundaries of such programs very fast. Often, compiled contents cannot be integrated into the standard programs. In order to be able to develop the young peoples' abilities and creativity, it is necessary that the tools are of industry standard.

Free access also relates to the pedagogical approach. In accordance with the principles of 'animating didactics', the Computer Clubhouse provides a diversity of learning experiences, in which each individual can find his or her niche. On the basis of the "animating didactics" of Opaschowski (1996), the Computer Clubhouse offers an open learning environment in which the young people can develop freely. There is no rigid curriculum for the learning process. Each young person decides on their own the speed of learning, the learning contents and the training aims. Only the daily opening-hours from 2.30 – 6.00 p.m. determine the framework.

The principles we follow are:

- Freedom of choice: actinging spontaneously according to one's own personal inclinations without pressure or obligation. The children and young people are free to choose whether to come or not and whether to deal with a particular topic or not.
- Informality: being able to act naturally, to be free from pressure to perform and succeed, which means the absence of competition. An open situation without undue external regulation is offered as the context for activity.
- Flexible use of time: The participants are allowed to divide their time as they want and to use it flexibly. They may determine for themselves the duration, tempo, intensity and interruptions of their activities. The only limits are given by organisational parameters such as opening hours.

Of course, there are some basic rules that all the members of the Computer Clubhouse must agree to abide by:

- Respect for other people.
- Respect other peoples' ideas (there are no stupid ideas, there are only stupid remarks).
- Handle the equipment with care.
- Team spirit is a matter of honour.

These very general rules mean:

- Never turn against the others' interests.
- Each person is your partner.
- Show the others that in your opinion fears and inhibitions are human.
- Take each person in the way he/she is.
- Support their strengths and do not demand they hide their weaknesses.
- Respond to each participant's inclinations, interests and abilities.
- Have trust in his/her ability, knowledge and decisions.
- Help them to detect their needs and interests and, in addition, to carry them out independently later (Opaschowski H 1996).

All young people can visit the Computer Clubhouse without obligation, as guests. The young people become acquainted with the possibilities of the Computer Clubhouse and decide for themselves, after having attended 2 to 3 times, whether to become a member or not. A member of CCE gets a special membership card and their own email address. They can design and publish their own homepage and participate in special workshops about application programs.

Learning

To be free is the best condition for learning and, additionally, to have fun. And learning is necessary to close the knowledge gap.

Learning to learn is a very important competence for the future:

"...current educational research shows that adolescents learn most effectively when they are engaged in designing and creating projects rather than memorising facts or learning isolated skills out of context. The Computer Clubhouse fosters a learner-centred, informal educational approach that encourages participants to discover their interests and apply their own ideas. Given the support and freedom to pursue their own ideas, young people get beyond their disinterest and apathy about learning, and develop the internal motivation to learn and grow" (The Computer Clubhouse at the Computer Museum 1997).

Children and young people become creative designers through computer-assisted products. They create their own works of art, animations, simulations and multimedia presentations; their own virtual worlds, musical compositions and robot constructions. They are active producers and not only consumers.

Mentoring

The mentoring system of the Computer Clubhouse is one of the substantive mechanisms for the transfer of media competence. The group of mentors consists, at present, of schoolboys and schoolgirls, students from the local technical and social university, workers (logopaede, nurses, photographer, managing director, teacher) and pensioners. These mentors act as social catalysts, coaches and consultants, and bring new project ideas to the Computer Clubhouse. They operate on their own projects and encourage children and young people to co-operate and to join in. They also act as role models, give suggestions and support.

Each mentor takes part in the Computer Clubhouse community with their special abilities. Some have expert knowledge within the technological area; some are particularly imaginative and creative. Others have the ability to facilitate group processes in such a way, that each user has ideal learning conditions. Mentors learn a lot amongst themselves. They pass their knowledge on to other mentors as well as to members. At the same time mentors can also learn from members. Often young people are very confident in handling applications, more so than their adult mentors. The possibility is offered that younger people teach their elders. It's a great opportunity for both.

The mentors of the Computer Clubhouse are as different as the children and young people who visit the Computer Clubhouse. They differ in their abilities, knowledge, experiences, their motivation, maturity and personalities. This variety is intended and desired. It is a significant characteristic of the Computer Clubhouse as well as a challenge. Close co-operation and an active exchange between the mentors ensures the diversity is a strength. Exchanges take place in the framework of mentor meetings, regular discussions in the afternoon, and of common meetings in the Computer Clubhouse outside the regular opening-hours and with special events like sharing meals and trips etc.

Everyday llife in the Computer Clubhouse Esslingen

Every day at the Computer Clubhouse is different. The rhythm of the day depends on the interests, the personalities and the temper of mentors, members and guests, on the weather, the school situation and so on.

Every day at 2.15p.m., the mentors meet in order to prepare the afternoon. The shape of the session is discussed: who will look after the new visitors? who wants to co-operate in which project? who has a new idea, or who needs time to work on a special project?

At 2.30p.m. the members and guests arrive. Sometimes only a few come, perhaps seven members and guests. On another day there is a rush, with up to 25. On average 15-20 young people visit the Computer Clubhouse every day.

Most members know exactly what they would like to do. They make photographs with the digital camera to create a collage, or edit a photograph, with various image editing software, in a creative way. They search the Internet for information for their homework. They check their mailbox and answer e-mails or sit around the table to plan a future project, e.g. a video film. They arrange songs with the keyboard or construct cars and creatures, which are controlled with Crickets (A mini computing active-sensor-device http://fredm.www.media.mit.edu/people/fredm/projects/cricket) or Bricks (A computing device, sensor-device, http://

lcs.www.media.mit.edu/people/fredm/papers/aera96/node1.html). They make 3-D animations or write letters, poems or stories. They work alone or together. They work quietly or loudly, they concentrate hard or work superficially, fast or slowly. Some give themselves complex tasks, others look for simple activities. Some members and visitors don't know what they want to do: attentive mentors try, together with the young person, to work out what their interests are.

The young people usually operate together at the computer. Often compromise solutions have to be found, so that one gets enough time to use the computer. They learn to make arrangements and to get their interests accepted. They participate actively in negotiations and learn to share. Project-oriented team formation enables the members and mentors to support each other. The resulting group-dynamic processes are accompanied and supported by the mentors.Being together with different people also gives them experience of different views of life and value systems and how to deal with them. Technology experiences have to be embedded in a social context connected with tolerance, respect and communication.

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Teaching for quality learning at university: what the student does.

Book review by On-Kwok Lai

John Biggs, 1999
Teaching for quality learning at university: what the student does
Open University Press, U.K.
ISBN: 0-335-20172-5 (Hardback)
ISBN: 0-335-20171-7 (Paperback)

This volume is one of a series from the Society for Research into Higher Education and Open University Press, written by John Biggs, an experienced university educator who has held educational chairs in Australia, Canada and Hong Kong. It addresses the timely challenge of the reform and restructuring of education and training in higher education in different societies.

In its eleven chapters, the book covers most aspects of teaching and learning at university level. More interestingly, it also sheds light on human services professional education. Chapter 1 specifies the changing teaching and learning milieu in higher education that poses challenges for re-inventing new modes of learning and teaching: larger classes containing a greater variety of student ability and motivation; market driven courses juxtaposing the under-resourcing of the education sector. The contextual specificity identified, and the implications elaborated by John Biggs, mirror the transformation of the training environment for health and welfare professionals. Thus, the book has strong relevance for human services education.

In Chapter 2, Biggs further elaborates the '3P' model of interactive learning and teaching.The model describes three stages in time at which learning-related factors are in place:

- Presage: student factors and teaching context before learning takes place
- Process: learning focused activities during the process
- Product: the learning outcomes

More importantly, this chapter presents the author's innovative approach to learning and teaching, namely the integrated, consistent approach for the 'Constructive Alignment' of teaching, which is defined as the compatible alignment of all components of teaching and learning: curriculum, teaching methods, assessment-evaluation methods; the milieu the teachers create in their interactions with the students; the institutional

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arrangements of rules and procedures in/through which learning takes place (pp.25-29). More specifically:

> *Alignment itself, however, says nothing about the nature of what is being aligned. This is where constructivism as a theory of learning comes in. If we specify our objectives in terms of 'understanding', we need a theory of understanding in order to define what we mean; in deciding on teaching methods that address the objectives we need a theory of learning and teaching. Hence, 'Constructive Alignment', a marriage between a constructive understanding of the nature of learning, and an aligned design for teaching (p.26).*

In contrast, non-alignment is signified by inconsistencies, unmet expectations and practices that contradict what we preach (p.25). For example, we lecture education students on how to run small groups but then give them a written test. In other words, Constructive Alignment is not 'spoon feeding' but makes the students themselves do the real work; the teacher simply arranges things so that it is more likely that they will (p.27).

Chapters 3 to 6 deal with the core aspects of teaching: formulating and clarifying curriculum objectives; setting the stages for effective teaching; the principles and practice of good teaching; effective teaching (the transfer of knowledge and the teacher's interpretation of knowledge) for large classes. More specifically, in Chapter 3, using the Structure of the Observed Learning Outcome (SOLO) methodology, originally developed by the author – he attempts to provide a systematic way of identifying, as well as measuring the quantitative and qualitative changes of learning. It looks at how a learner's performance grows in complexity when becoming skilled at academic tasks; it defines curriculum objectives, which describe where students should be operating, and can be used for evaluating learning outcomes so that educators can know at what level individual students actually are operating (p.37). The SOLO model, and its procedural details offered in later chapters, should be of great interest for those who want to have outcome specific measurements for education and learning. But, for obvious reasons, how useful they are for the people-focused and society-oriented human services education is questionable, as the model is too limited in its explanation of the complexity of social learning and the 'unintended consequences'.

Confronting the internationalization of education in general, and the ever-increasing number of international students in the higher education sector in particular, Chapter 7 clearly identifies ways and modes of adjusting and adapting cultural differences in teaching and learning. More strategically, it advocates a more accommodating, inclusive approach, highlighting a greater context-specific approach to education, addressing the differential needs and ethnic and cultural meanings of learning (p.139). The author rightly identifies the issues, but fails to fully address them.

This is followed by a change in terms of the thematic issue and level of analysis. Chapters 8 and 9 reconsider the principles and practice for assessing the learning quality, with special reference to the Teaching and Learning Activities (TLAs): providing conceptual and detailed practical and procedural guides respectively on the assessment of the learning outcomes. Obviously, these chapters are also in line and logically link-up with the concepts, nuts and bolts, of the SOLO framework advocated by Biggs.

The last two chapters discuss examples of aligned teaching and the implementation issues. Chapter 10 highlights the essence of Problem-Based Learning (PBL). In that the problem, or a series of problems, is where learning starts and the learner wishes to solve (pp.206-7), as well as the variety of applications of PBL in different education/training domains. This chapter should be of great interest for human services professional training where PBL has currency over discipline-based learning. The last chapter recapitulates the importance of innovation in the teaching

system: collaboration for social and action learning among stake-holders in enhancing the quality of teaching and learning and the outcomes. Yet, the reflexive aspects of education learning could have fuller detailed elaboration in both chapters.

There are two caveats with this book. First and foremost is the structural relationship of teaching and learning for the underlying (*a priori*) assumptions of the teaching and learning experience. The author seems to suggest that there is always a logical link (within a closed system) between teaching and learning in a rational and systematic (perhaps a linear) way, hence the SOLO and the related measurements are valid and reliable. But our teaching and training, as well as learning, experiences tell us that there are always mis-matches, accidents and differential chaos in the process of learning, in and through which we learn and grow. The SOLO model's measurable outcomes of learning run the risk of being either superficial or non reflexive. Intuition and wisdom developed in the process of learning (and unlearning) are more instrumental than the measurable items and variables per se. In reality, too much emphasis on the outcome (evaluation after evaluation of performance of both teachers and students) and hence the design and programming of learning experience tends to make learning and teaching suffocating. This is particularly the case when teaching and learning are on the dynamics of (sometimes unpredictable) social reality, values and norms of people's interactions.

Second, the present aspects, and the impact, synergy and contradictions, of information and communication technologies (ICTs) upon education and training have been mostly under-estimated, if not neglected, in the book: only a few pages of notations about education technology, its development and applications (pp.114-115) are available. Without a full elaboration of the complexity and impact of the ICTs upon education / training, particularly the profit-oriented and market-driven commercialization of education and training processes on a global scale (cf. Schiller 1999: Chapter 4). The author's innovative approach and insightful advice for the upgrading of teaching and learning become difficult, if not impossible, to implement. There is a mis-match between the changing context and the methodology. Hopefully, this will be addressed in the author's future work.

In spite of these problems this work is a well organized and highly readable one for beginners, with many good graphic presentations (boxes, diagrams, figures and tables), down-to-earth teaching practice suggestions, plus a concise summary and further reading list at the end of each chapter. Hence, it is a good textbook of great use, not just for students and teachers in higher education, but also for facilitators in human services professional training.

Undoubtedly, Biggs' work provides us with creative and innovative approaches confronting the challenge of the changes in the teaching and learning environment. His approach, though sided with the design and outcome of the teaching and learning experience, is relevant and valid for the training of those engaging in the human services sector.

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Reflection in learning and professional development theory and practice

Book review by Jackie Powell

Jennifer Moon, (1999)
Reflection in learning and professional development theory and practice
Kogan Page Limited, London.
pp.1-214.

This book, as its author clearly states 'is an attempt to take an overview of reflection – in terms of the literature, the common meanings of the word and its value in practical ways of improving learning and professional practice'. This is an ambitious task, but one that Moon, in my view, successfully achieves through the integration of a wide and diverse literature on the topic, and its role in the process of learning. The book is divided into three parts, the first of which is devoted to an extensive trawl through the literature on reflection in its many guises. It draws together dominant but somewhat different ideas on reflection, most notably via reference to the work of Habermas and Dewey and, in the context of professional development, the highly influential writings of Schön.

Through this critical review of a wide range of literature and specific research findings emanating from a range of disciplines and professional groups, the author demonstrates the various ways in which this term is used in different contexts and for different purposes. This detailed examination of the term makes fascinating reading, not least as it challenges many of our taken for granted assumptions about reflection being a 'good thing'. In this respect, I found chapter 5 entitled 'Reflective practice in the professions – a theoretical stance' particularly thought provoking.

Part 2 examines the relationship between reflection and learning and is structured in such a way that it takes the reader through the process step by step. With the benefit of a more informed understanding of reflection gained from a close reading of the first part, our attention is now directed towards a more detailed exploration of the processes of learning. This begins with the concept of 'cognitive structure', alternatively described as what is already known by the learner in terms of facts, concepts, propositions, theories and raw data. This idea is central to the constructivist view of learning, as it is through this mechanism that new learning is mediated. Two further 'fundamentals of learning' are introduced here: stages in the progression from simpler forms of learning to more complicated ones, and the distinction between deep and surface approaches to learning. Noticing, making sense and

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making meaning are equated to surface learning, whereas the higher stages of working with meaning and transformative learning are associated with deep learning, characterised by an ability to understand ideas for oneself. Each of these key elements is incorporated into a speculative map of learning (rather than model) which provides an overview of the processes of learning and some consideration of the ways in which they might relate to each other. The last chapter in this second part uses this map as a basis for hypothesising on the place of reflection in the process of learning. Reflection, it is suggested, operates mainly in three areas of learning and the representation of learning. They are, reflection in initial learning, reflection in the process of representation of learning, and reflection in the upgrading of learning initially accommodated at a lower 'surface' level. For the reader who remains puzzled about the nature of reflection and its relation to learning, the following definition is offered in the concluding paragraph of this chapter.

> *... reflection is a mental process with purpose and/or outcome in which manipulation of meaning is applied to relatively complicated or unstructured ideas in learning or to problems for which there is no obvious solution (p.161).*

Thus, reflection is integral to a deep approach to learning and plays an important role not only in the enhancement of learning but also in professional practice.

The final four chapters in Part 3 have a very different focus as they provide clear practical guidance about how to promote reflection in the learning process. There is a strong emphasis on the need to create conditions that encourage and foster the development of the learner, namely the learning environment, management issues and the qualities of task that encourage reflection. A range of case studies and examples are described in varying degrees of detail. Readers will find these more or less illuminating and helpful in their own work depending on their familiarity with such tools and techniques. There is some sound advice on how to introduce and implement such activities, e.g. learning journals, and the need for structured or managed time for reflection. Although there is little explicit consideration of the use of information technology, there is an interesting reference to the use of e-mail discussion groups and the value of tutor involvement in facilitating reflection in this form of dialogue.

As someone engaged in teaching in higher education and the education and training of social workers in this setting, I found this book informative, thought provoking and an interesting opportunity for me to reflect upon my own practice. Ideally this book should be read from beginning to end rather than dipped into, although the last section can be used as a source of reference and useful ideas. Whether those engaged in teaching in higher education will take the time to read this text in detail is debatable. However, it is a very timely contribution for anyone currently involved in developing and/or managing the implementation of a teaching and learning strategy. Furthermore, any professional committed to the notion of 'the reflective practitioner' would find themselves better informed having read this book, and in a stronger position to develop their own reflection and encourage its use in their students' practice.

What kind of university? international perspectives on knowledge, participation and governance

Book review by On-Kwok Lai

Brennan J, Fedrowitz J, Huber M and Shah T, (Eds., 1999)
What kind of university? international perspectives on knowledge, particpation and governance
Open University Press, U.K.
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As our societal development moves into a new epoch, an era of economic globalisation coupled with the information explosion of the so-called Knowledge Economy, the strategic role of universities (as the principle agencies for knowledge production and advancement) becomes more important than ever. Attempting to answer the prospects for university education, this edited volume is a welcome addition to the burgeoning social scientific interests in re-inventing the University in the 21st century. It offers insightful analyses on the subject matter from various perspectives and stimulates our continual debate on the future of the university.

The book has eighteen chapters, by twenty three contributors from four continents, addressing three major topics:

- The knowledge production process: research and teaching in the tertiary education sector
- Stakeholders' (students in particular) access to and participation in university development
- Governance issues: management and organisation of institutions, change at different levels in the university and beyond.

In spite of the diversity of issues covered in this volume, two major themes are being well articulated here (though not consistently argued by different contributors in analytical terms throughout), namely:
(1) The tendency for higher education to move, like the economy, towards a global and internationalised development, which poses challenges for universities to transform and re-invent their systems of governance.
(2) The role of technology, a significant enabler of global communication, in higher education is seen as more instrumental than ever in shaping the delivery and organisation of educational services in different geographical spaces (local, regional and global) and socio-cultural arenas. Here, it is well argued that higher education institutions will be the newest, yet the last, battle field between global economic, market-oriented forces for the future generations of enlightened intellectuals.

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With good empirical case studies in the core chapters, each chapter addresses a particular (sub)theme with a unique perspective, contributing to the revelation of the underlying dynamics of the changing milieu and governance of universities. After the two introductory chapters on the changing context of university education, Part 1 (Chapters 3 to 6) of the book deals with the key questions on what is to be taught in curricula and knowledge to be learned in universities. They highlight:

- the shift of the mode of research practices (knowledge production) from disciplinary structures towards one which is characterized by the context of its application beyond the university setting, by trans-disciplinarity, by heterogeneity and by social accountability (Chapter 3)
- the interlinking between critical (thinking) intellectual skills enhancement and knowledge based development (Chapter 4)
- the importance of a coherent, integrated academic experience for individual learners with respect to the content and organization of curricula (Chapter 5).
- the rise and popularity of the professional doctorate program advocating that its academic vigour should be the same as in the Ph.D. program (Chapter 6).

Part 2 addresses the questions of access and participation at universities, and,

- notes that access to university education is still restricted to social class, ethnicity, geography and other social economic fault lines, and further argues that the ethics of access and participation require nothing less than transformation of institutions and systems to make them open to all (Chapter 7)
- critically sees a moral dimension to questions of access and participation, and emphasizes the urgent need to create the equal opportunities framework for access and participation within the university and beyond (Chapter 8)
- records the historical achievements of land-grant (old) universities of the USA in upgrading the knowledge base of the communities they are in, yet rightly advocates that the old and the new universities are facing the ethical duty of outreach and extension of university education in both professional and applied research arenas. (Chapter 9)

Part 3 looks into the operational aspects of governance issues at universities: management, leadership, administration, collegiality, bureaucracy, participation, autonomy and accountability. Six informative case studies are provided:

- the importance of middle management and departmental leadership is stressed in a study of seven departments in the Swedish universities (Chapter 10),
- a case study on the changes in Dutch higher education institutional governance structure highlights the problematics of greater politicization and bureaucratization, at the expense of professional autonomy (Chapter 11),
- the struggles for university autonomy against the 'top-down' reform initiatives in Swiss higher education (Chapter 12),
- the relative success stories of some central and eastern European universities to preserve their autonomy under restrictive political regimes (Chapter 13),
- the reminder that the processes of governance can be enhanced by better application of information technology (Chapter 14)
- the Scottish attempts in securing the appropriate balance between institutional autonomy and accountability for the use of public funds (Chapter 15).

The last three chapters in Part 4 address the futuristic questions of 'What kind of university?', and particularly the question posed by both the positive and normative aspects of technological innovations, of 'What kind of society?' But the differential impact and complexity of the digital, capitalist, governance in the educational arena is under-emphasised by the contributors in this part. And what is missing here is the

warning and illustration of the organic interplay, coupled with chaos, of the old and new (technology enhanced) education regimes for mass education and corporate development. This revolutionary change is clearly embedded in the different functional and socio-cultural networks of the developed economies.

In reality, the new form of 'digital' capitalism has a strong influence on education and training in the midst of the so-called Knowledge Economy. It redraws the contours of the delivery of higher educational products and services (via on-line and in cyberspace) and their specific investments by both traditional and emerging knowledge providers, like universities and media corporations (Schiller, 1999). In short, higher education becomes a booming industry of its own, with profit-making drives, and hence follows the market logic. All these challenge the fundamentals of education: values and norms. They also exacerbate the syndrome of the have and have-nots in the educational arena: the so-called digital divide which is structurally anchored in the informational society (Castells, 1996).

With numerous empirical examples, this book is very successful in putting the futurist aspect of university education into perspective – as a new arena for educational policy discourse. But there are some caveats in terms of the levels and dimensions of the analysis on the educational processes for knowledge advancement, and the extent (geographical coverage) of *What Kind of University?*

First and foremost, what is missing in the book is the analytical / theoretical construct(s) to further explore the multi-dimensional manifestations of the transformation / re-invention processes of universities in the future. Despite this, there is much said about the new way of doing education business, and governance issues at the tertiary education level in the core chapters and the forward looking concluding chapters. The very basic analytical question of how structurally different (or revolutionary) is the nexus between the universities and their new milieu under global capitalism is still not fully elaborated. Hence, without a vigarously articulated analytical framework, yet with a highly empirically focused study, the ideas of *What Kind of University?* are still a list of questions, but not the road map for further exploration.

Historically, universities are among the oldest knowledge institutions in the world. Perhaps more challenging than ever is their critical role in facilitating the enlightening processes for the development of civilization into the new Millennium. Knowledge has its own currency in different times and differential representation in different sub-systems: economic, socio-political as well as symbolic-interactive (like the performing arts) domains. What is inherent in producing knowledge is the normative aspect, namely, values and norms constitute an integral part of knowledge, as well as their reproduction and advancement, but they are somewhat missing in this volume.

Last, but not least, the book omits any discussion of the (under-)development of the higher educational sector in developing economies; the examples are predominantly of the developed countries' experiences. The ideas mooted in the study are highly contextual and developmental stage specific. This is particularly crucial when the globalization or commercialization of higher education has never been able to transcend regional and local spaces, nor the ethnic-cultural spheres, though it has been adapting differentially in the different socio-polities. Hence, higher education seems to have a local, ethnic and culturally shaped life course of its own. How university education will (fail to) develop and penetrate different, developing, ethnic-cultural spaces remains to be seen.

Under global capitalism, information technologies' innovations are revolutionizing educational media, contents and their delivery (cf. Nie and Erbring, 2000). By affecting their production and advancement of knowledge, they transform most aspects of social development. At this historical conjuncture, there is a more urgent need for theoretical, and analytically informed, intellectual exploration on the etiology, processing and impact of educational technologies, as well as the alternative

policy options which advocate a different and better mode of university education: obviously, this is a challenge for all contributors of the book and us!

In spite of these problems, this work is an eighty per cent success in bringing out new illuminations, contextualizations and interpretations of the emerging facets of challenges and transformations in tertiary education, the experience of the developed economies in particular. Overall, the analyses of the book cover a diverse and wide range of issues: its richness in case studies and lively deliberations should undoubtedly be of great interest for all stakeholders in the educational sector.

Reference:

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Governing in the information age

Book review by Jan Steyaert

Bellamy Christine and Taylor John, (1998)
Governing in the information age
Open University Press, Buckingham
ISBN 0-335-19450-8
pp. 196

The authors of this book herald two healthy principles, which make reading and reviewing this book a thrill, even given the time lapse between their writing and my reading. Firstly, in their preface, acknowledging the immense technological change taking place, the authors

> *urge the readers to interpret the examples which we use and the technologies which we describe as transient in importance. While the empirical world will move on, in this field more than others, of more lasting value will be the analytical, conceptual and theoretical tools which we use.*

Secondly, as one of their core analytical, conceptual or theoretical tools, the authors write from a 'social shaping' perspective on the information age. By doing so, they refuse to go along with the naive technological determinism that underpins both the currently widespread utopian as well as dystopian visions about the future of technology's effect on society. Information and communication technology are being approached as 'ambiguous technologies', that can be used as agents of empowerment and as agents for control and oppression.

The book contains 6 chapters. Each covers a specific area of governing and the information age. The first chapter deals with the re-engineering of the government machine. It focuses on the relationship between ICT and change in the organisation of government. A lot of the chapters rotate around the concept of new public management and business process re-engineering. Case studies include the Department of Social Security (DSS), National Health Service (NHS) and the National Strategy for Police Information Systems (NSPIS).

A second chapter deals with how technology can effect the delivery of public services. It does so by focusing on the underlying claim of many initiatives that "new informational capabilities could support significantly improved relationships between government and individuals". A key concept is consumerism. This is related to developments (or should one say 'dreams'?) such as the logical office or one-stop model. In the first scenario, back offices are concentrated and highly

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automated, while customer-facing offices are decentralised to the level of neighbourhoods. The second related scenario seeks to simplify and enrich first-level contacts with government through such initiatives as information points or first-stop shops. While the technology has evolved dramatically since such scenarios were first described, one can still see this idea underpinning many plans for technology supported government.

The third chapter takes the notion of consumerism further and focuses on citizenship and democracy. It describes the reinvention of democracy in the information age and the widespread coupling of electronic democracy with direct democracy. The available literature and research is reviewed and three archetypes of technology supported democracy are identified.

The following chapter is on telecommunication and public services. Here, the authors start from technology rather than applications in questioning the role of telecommunications and the telecommunications policy debate in the UK. The authors identify three common assumptions: modern digital infrastructures having removed considerations of geography from strategic decisions about the organisation of work; good quality technology being available to support remote teleworking; and the economic development implications of telecommunication infrastructures mainly being important for public authorities. In describing the telecommunication policy of the past decades (in the UK, but also the USA and EU's information society), each of these assumptions is challenged and scrutinised.

The final chapter of the book is entitled 'understanding the information polity'. The strings of the past chapters are tied together and the authors advocate a new framework to be developed for exploring and analysing change in and around government. To that purpose, they adopt "an approach which allows us to juxtapose the potentially radical tendencies of ICTs with the inherently evolutionary and incremental nature of institutional change".

This book provides a refreshing analysis of the effect of technology on government and contains several interesting issues. The Open University series to which this book belongs intends to go beyond the usual text book approach to the analysis of public policy and management. Each book in the series describes current thinking and research and explores future policy directions. Indeed, this book does go beyond a text book approach. In doing so, unfortunately, it has also limited its relevance to a broader audience. In order to be able to grasp the provided analysis to its full extent, one has to be aware of both the most significant UK projects involving government and technology, as well as be up to date with the literature of this area. Once those conditions are met, this book makes for interesting reading.

Creative technological change: *The shaping of technology and organisations*

Book review by Keith Grint

McLoughlin, I. (1999)
Creative technological change: *the shaping of technology and organisations*
Routledge, London
Pp xi + 188

The literary arena of technological change tends to be composed of two markedly different texts: on the one hand there are practitioner texts which provide prescriptive advice, and on the other are academic texts which generally imply that the practitioner texts are grossly oversimplified accounts. In turn, the practitioner texts usually insist that academic scepticism is fine for the classroom but doesn't help the practitioner at all; indeed, it often generates yet further confusion and immobilisation. Even the academic texts on technology are divided along disciplinary lines between management texts, sociological approaches, within and more conventional technology change treatises. McLoughlin's book is clearly set with the academic model, but it makes a relatively successful attempt to bridge the gap between the academic and practitioner modes of thought, whilst at the same time providing a thorough review of the various competing academic models.

The book embodies a 'descending-ascending' analysis that takes the reader from the generally familiar world of 'machines' through to a progressively less familiar (to non-specialists) world of post-modernist and feminist accounts of technologies in a variety of formats. Much of the time is spent considering the utility of metaphors for technology and the final sections bring the reader back to the surface of 'reality' by evaluating the models against three Australian case studies of managing technical change. Unless readers are enamoured of theories of technology the *apparent* relevance of the book will be restricted to the final chapters but this is to misunderstand the significance of the theories. Consciously or otherwise, it is through such theories that we 'read' technology and anti-theoretical sceptics are merely adopting a simplistic theory rather than prospering through the absence of theory.

The book begins with a debate about the meanings of technology, and ends with a review of technological determinism and its accompanying metaphors. It then moves on to explore the value of innovation economics, focusing particularly on biological and evolutionary metaphors. Chapter 3 draws

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on the traditional debates about Fordism, post-Fordism and the information panoptican that allegedly represents the pernicious influences of information technology, and situates the debates about lean production and flexibility within a larger framework that leads into virtual organizations. Here the issue of technological determinism is silhouetted against the rise of increasing worker surveillance through information technology. At first glance this appears to be a direct consequence of the technology itself but Chapter 4 reviews the 'strategic choice/organization politics' literature to suggest that there is as much politics as technology in such panopticans.

Halfway through the book McLoughlin takes the reader into a different arena by descending into the 'black box' of technology itself to consider the recent theoretical developments in the sociological studies of technology. In particular this involves those associated with various strands of social constructivisim, especially the social construction of technology and actor-network theory. These models are radically sceptical of claims about technological determinism and the 'objective' claims on behalf of technology and are probably represented most starkly in the following chapter's review of 'technology' as 'text', in which the 'reader' rather than the 'writer' of the technology is the focus of attention and the precise capabilities and effects of technology are the subject of recurrent debate. Having descended deep into the black box of technology, McLoughlin then re-emerges to consider the socio-economic shaping of technology and concludes by reassessing the varieties of metaphors and theories of technology against three practical case studies of technological change.

The field of technology studies within social sciences has increased exponentially over the last decade and much of it remains esoteric and obscure. McLoughlin, however, manages to steer a relatively clear and clean path through the linguistic jungle to provide the new reader or non-specialist with a solid introduction. And given the degree of passion that frequently, and ironically, accompanies the social study of technology, the book manages to avoid descending into the 'armed camps' that litter the field. That is both a major strength and a weakness, for those seeking to engage in the argument are less well provided for than those who merely want to become acquainted with the field. Paradoxically, then, the debates are well covered technically, but there is little that reflects the energy of the initial debates, nor are the readers provided with any clear critical advances in the arena. Rather in the manner of a neutral umpire or a disinterested course on the topic, McLoughlin has provided a fine introduction to the debates without really managing to bring the debates alive. As such the book will provide a good buy for the student of the field, but without adding much in itself to the field.

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