SUBMISSION TO HOUSE OF REPRESENTATIVES INQUIRY INTO TEACHER EDUCATION

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Introductory remarks

This submission draws on local Northern Territory experience of Teacher Education gained over a period of nearly twenty years, spanning a number of course accreditations involving the move from a Diploma of Teaching to a three year Bachelor of Teaching to the current four year Bachelor of Education at CDU.

Recent research into the socio-cultural aspects of teaching has highlighted the need to take into account the local context in which teaching and learning take place. In common with other small regional universities in Australia, the School of Education at Charles Darwin University has to address a variety of diverse educational contexts: temporal (or historical), spatial and geo-physical, environmental and ecological, intercultural and pluralistic . At the same time it has fought hard to remain connected to, and to influence, the evolution of education at all levels throughout Australia, whilst resisting the way in which higher education in the Northern Territory has been imagined and constructed from outside of the Territory by the southern states.

It should be noted at the outset that the focus adopted at CDU emphasises the need for teacher *education* as distinct from teacher *training*. The latter is associated with functionalist, utilitarian and technicist forms of teaching associated with monitorial and apprenticeship approaches to teaching. The former incorporates a consideration of 'big picture' issues which relate to socially critical issues and social futures. This distinction is examined in greater detail in response to the fifth term of reference dealing with philosophical approaches.

Another factor which needs to be considered is an investigation of this kind is the way in which the connection between teaching and learning is construed. For many people, there is an immediate, direct correspondence between the two, based on a transmission theory of education. This oversimplistic view, often coupled with a particular construction of childhood and adolescence, ignores the ways in which knowledge is socially constructed.

The foremost contributions in this field have been made by Wenger (1998) who points out:

- Instruction does not *cause* learning.
- Teaching and learning are not mirror images of each other.
- Instruction merely creates another context in which learning can take place.
- Much learning takes place without teaching and much teaching takes place without learning. How lecturers can expeditiously exploit informal and non-formal learning is vital to the profession.
- Teaching and learning are not bound by direct cause and effect relationships, but one of resources and negotiation. Learning is an ongoing emergent process and teaching is only one of its many structuring resources.

- Wenger (1998) ends by asking: How then can we ensure minimalist teaching yet maximise learning and negotiation of meaning?

Finally, the notion of a 'teacher-ready' student needs to be clarified. If by 'teacher-ready', the inquiry has in mind someone who can step straight into a classroom and deal immediately and effectively with any issue with which they are confronted, it is doubtful if such a person could be produced. Lave and Wenger's (1991) concept of 'legitimate peripheral participation' suggests that novice members of a community of practice have to be socialized into the community by older members. Extending the practicum and providing more opportunity for School-Based (or Site-Based) Teacher Education in a wide variety of schools will undoubtedly extend the intending teacher's repertoire and this is to be commended. However, SBTE is not without its difficulties and as explained in a consideration of the role and input of schools and their staffs in response to Term of Reference 8.

If the inquiry is predicated on some kind of outcomes-based teacher framework, the idea would be worth investigating. For a number of years CDU has been working with the Beginning Teacher Competencies (NPQTL 1996) as a means of encouraging self-reflection and collaboration with the mentor/supervising teacher or school-based teacher educator. However, the Beginning Teacher Competencies have their limitations and were always based upon the premise that the development of the competencies would continue in the schools. There are distinct limitations on what the University can accomplish. For example, if we take the preparation of prospective teachers to deal with bullying, disruptive students and dysfunctional families (Term of Reference 7), it is doubtful whether during the time accorded to an extended practicum, the student would get the necessary close-up experience required.

Given what is now known about communities of practice, the concept of teacher-ready cannot be thought of in terms of an individual, private, and 'separate' teacher. Teacher ready has to be thought of in terms of the collaborative, team-orientated, teacher who does not *'deal with'* fellow teachers, but actually dialogues with them, shares, asks for assistance, builds relationships and works towards transformation.

Term of Reference 1.
Examine and assess the criteria for selecting students for teacher training courses.

Small regional universities such as CDU cannot insist on the same high level TER scores that many of the more prestigious, well-established universities in Australia can demand. This raises the question of the viability of such institutions were Entry Levels to be mandated nationally and set too high. The demise of the CDU would be unacceptable to most Territorians who would resist (re-)colonization by the southern states.

Whilst entry scores have been slowly rising at CDU, they are not universally high, and literacy and numeracy levels are sometimes less than satisfactory amongst potential teacher education students. For this reason students are directed to Tertiary Entrance Programs (TEPs) and in most cases are required to undertake two compulsory Common Units including CUC100 Academic Literacies. It is debatable whether a common units program should be taught within the University, or outsourced to private providers including senior secondary colleges with credit

transfer being available on entry to the University as in the case of the Open University in the UK.

An examination of the NT Curriculum Framework and Standards document would suggest that an exclusive reliance on cognitive capacity and academic success is ill-advised. This document advocates for the development of 'The Inner Child' with a focus on the communicative, creative and constructive child. These attributes are also essential aspects of teacher preparation. Thus, rather than focusing exclusively on academic prowess, much greater use should be made of profiling to capture other important criteria which will enable prospective teachers to fit young people to meet the demands of the new globalised world, including social service and work for voluntary organizations.

Term of Reference 2.
Examine the extent to which teacher training courses can attract high quality students, including students from diverse backgrounds and experiences.

There are a number of factors which have deterred young people from undertaking teacher education courses. These include:

- The self-serving, intimidatory rhetoric from politicians, bureaucrats, education officers, and managerialists surrounding quality and excellence.

- The pedestrian nature of much of the students' own classroom experience in their 12 year apprenticeship in outmoded schools.

- The alienation, disengagement and apathy experienced by many young people and the lack of respect accorded to them by their teachers. (Smyth et al 2000)

- The managerialist model adopted by many jurisdictions, which has undermined the humanistic, humanitarian and communitarian efforts of many dedicated teachers. There is a huge gap between the rhetoric expounded in such courses as the NTDEET Emergent Leaders program, and the actual practices of the proponents.

- The irrelevance of much curriculum content and the failure to engage with community to make learning authentic, relevant and challenging. (Thompson 2002)

- The nineteenth century attitudes to knowledge, control and authority exhibited by the Universities themselves.

With reference to the inclusion of students from diverse backgrounds, the CDU experience suggests that in the case of Indigenous students, the number of applicants increases and attrition is reduced where there are committed staff who:

- are of Aboriginal or Torres Strait Islander descent themselves
- act as positive role models;
- are expert at boundary crossing;

- engage students in culturally appropriate pedagogy;
- have high expectation; and
- can provide social support through mentoring programs, the creation home rooms and group-based activities,

The provision of scholarships and other forms of financial assistance by NTDEET for students willing to teach in rural and remote areas, has also boosted enrolment. However, a fully-fledged internship program, whereby students are actually paid as interns in the final two years of the course; protocols are drawn up which are binding upon the NTDEET to ensure the provision of proper resources, housing and supervision; excessive HECS fees are rebated, would contribute significantly to increased enrolment.

Efforts to provide for those who have had extensive experience in a particular trade or industry and are contemplating a career change, have not been as successful, largely because the proposals tabled by the School of Education have not been accepted by the Course Advisory Committee whose members operate in an environment of stultifying regulations and restrictive staffing policies. The current proposals for the extension of middle schooling and a liberalized approach to RPL contained in the Secondary Education Review (NTDEET/CDU, 2004) could create a number of opportunities for those with relevant practical experience gained elsewhere to move into teaching.

Term of Reference 3
Examine attrition rates from teaching courses and reasons for that attrition.

Attrition at CDU stretching back to the time of Darwin Community College and the Darwin Institute of Technology days, has always been unacceptably high. For every 100 students commencing in the Bachelor of Education, we would expect to graduate less than 40 after four years, the majority leaving at the end of their first year.

An ongoing study into attrition from the external web-assisted Common Unit, CUC100, being carried out by the writer, which draws on students throughout Australia, suggests that the reasons for attrition are predominantly 'personal' rather than institutional or pedagogical, and include the emergence of alternative job/career opportunities for student and/or partner, changes in domestic arrangements and marital status including relocating, and re-assessment of the balance between work and leisure time. Students who agreed to a telephone interview were adamant that there was nothing substantially wrong with the materials; that although some assessments in the Computing section of the course were fragmented, the work load was fair and manageable; and that the responses from tutors on-line were fast and supportive. If the Open University experience in Britain is anything to go by, where attrition is greater than one-third in many introductory courses, increasing numbers of students are 'taking the book of the shelf', getting a taste, and deciding whether to continue or look for something more suitable.

Many students decide after the introductory Field Experience unit in the Bachelor of Education that precedes the first practicum, that teaching is not for them. Anecdotal evidence suggests that they are appalled by the intensification of teachers' work, the poor community support, ineffective and over-demanding middle management,

unavailability of essential resources such as classroom programs, and pedagogies and methodologies which have not changed since they themselves were in schools.

A bigger problem is attrition from the profession itself after the first three years. It appears that successive governments have been highly successful in convincing young people that there is no such things as a job for life, that they need to be flexible, adaptable and entrepreneurial, and more self-reliant. Many resist the separation of conception from execution and the undermining of their professional autonomy; the disregard of their professional judgement; poorly introduced and threatening accountability procedures; the regime of testing which has reduced teaching in some schools to three and a half days (testing on Friday, return of test on Monday mornings followed by 'rehearsal' of test items and coaching on the test); the lack of transparency; and the lack of substantial professional development.

Term of Reference 4
Examine and assess the criteria for selecting and rewarding Education faculty members

Working in one of the poorest Universities, where employment conditions and promotional prospects are some of the worst in the country and salaries have fallen below what senior teachers and middle level executives earn in the schools, teaching staff at CDU have suffered considerably from the changes to the organization and administration of Higher Education implemented by successive governments.

Whilst in theory, staff can apply for promotion on the grounds of either research and scholarship, teaching, community service or administration, invariably teaching is discounted as can be seen from the fact that many staff in the university, including those recently appointed, possess no tertiary level teaching qualification. Staff selection and promotion is dependent on research-earning capability. The insistence on research has enabled the university to deny promotion to a whole group of people recruited in the days of the Institute of Technology. Moreover, the continual changes in the interpretation of the rules by the promotions committee has disadvantaged particular staff.

Term of Reference 5
The educational philosophy underpinning the teacher education courses and the extent to which it is informed by research.

Whilst there may be one or two dissenting voices, the overall educational philosophy is broadly constructivist. Constructivism is not so much a coherent philosophy as an epistemology which seeks to break away from the Cartesian-Newtonian view of science and reality. The courses at CDU are therefore characterized by a belief in:

Situated learning: the belief that knowledge is distributed throughout the group and situated in socio-cultural contexts.

Productive education: Jenny Gore and her colleagues at the University of Newcastle (Gore, 2001 and 2002; Gore, Griffeths and Ladwig, 2001), have put forward the following framework for productive education based upon that of Newmann and Associates (1996) for authentic education. This summary it taken with minor

additions and adjustment from a paper presented to the 2001 Annual Conference of the Australia Association of Research in Education. The framework consists of four components:

> 1. *Intellectual quality* which involves the development of higher order thinking skills and critical analysis, a refusal to remain at the superficial level of knowledge content, and a determination to move students to consider the deep structure of knowledge with an accompanying understanding of concepts and ideas; the importance of substantive conversation and sustained dialogue to the social construction of knowledge; making knowledge problematic; and foregrounding a necessary metalanguage to enable advances to be made.
>
> 2. *Relevance* which refers not simply to connectedness with the world, but knowledge integration and a problem-based, inquiry-orientated approach to real world problems involving environmental and ecological issues and moral and ethical dilemmas, which are of immediate concern to young people in a risk society.
>
> 3. The provision of a *supportive classroom environment* which provides for student control, social support, and engagement, making the criteria for student performance explicit and promoting self regulation and self-direction.
>
> 4. The *recognition of difference* which takes us into such questions as intercultural knowledge and awareness, inclusivity, narrative knowing, group identity and knowledge of the self and active citizenship.

Transformative learning which engages with the transforming of knowledge to meet the demands of social futures. The move to transformative learning took place just prior to the last re-accreditation and is explained in greater detail in Appendix 1.

*Community-based approache*s which not only take education out of the egg-crates in which it is presently confined into the wider community, but uses the community as a wider educational resource and addresses community issues through such programs as Tribes, Restorative Justice and the Virtues Project.

Computer-Mediated learning. Whilst there is no consistent School of Education acceptance of CML, individual staff are incorporating distance education techniques into their teaching and course presentation with considerable success (Grenfell 2005, in press). The use of CML fits well with the dialogic approach to learning advocated by Bahktin in which 'context and cognition operate always and only in an interpenetrating, co-constitutive relationship' (Nystrand et al, 1993, cited in Warshauer 1999, p80). This in turn calls into question the conception of theory being *put* into practice which characterizes so many University courses. The advantages of computer-mediated learning, particularly in conjunction with face-to-face seminars where possible, are well established. CML requires a reconceptualisation of the role of the instructor, who now becomes a coach, facilitator, and manager of learning.

Community-based learning and computer or web-based learning, both combine to promote *Communities of Learners* which employ a variety of techniques including simulation, role play, and problem-based learning. PBL lends itself to a number of the

issues raised in term of reference 7, particularly when dealing with bullying, disruptive students and dysfunctional families. With the technological advances made in hypermedia, it is now possible to incorporate video segments based on actual, authentic, teaching practice.

The current programs offered by CDU take into account the complexity, multiplicity, situatedness and contextualization of learning. Such programs seek to provide for adaptability, flexibility, creativity, and versatility. Novice teachers emerging from such programs are skilled communicators, generative thinkers, and relational and collaborative constructivists.

The next stage in the evolution of our teaching programs will be to move toward the building of Transformative Knowledge-Based Communities as outlined in Appendix 1 which incorporates the principles of the Woolongong approach (Kiggins 2001) and the work of Scardamallia and Bereiter (1994; 1996), in conjunction with the transformative imperative as outlined by O'Sullivan (1999; 2002).

In addition, whilst maintaining the focus on reflectivity and action learning which drove the earlier programs, the time is now ready to embrace the Activity Theory of Engeström which lends itself will to a socio-cultural analysis of teaching and learning.

Term of Reference 6
Examine the interaction and relationship between teacher training courses and other university faculty disciplines.

Interaction has always been limited by the failure of the University to adopt a clear unified policy on externalized courses and web-based learning which has limited the availability of subject choice within specialisms. Nevertheless some progress has been made with the introduction of double degrees on the condition that other faculties could guarantee equity by making courses available externally. All programs contain provision for specialist electives. The introduction of the Common Units program has also brought staff together from different disciplinary areas and has assisted in permeating some of the boundaries which existed. Previously coordinators experienced considerable difficulties in timetabling because of the imperious demands of the other faculties and there were occasions when these Faculties could not find staff willing to undertake programs which dealt with education. This was particularly true in the area of psychology. These difficulties now appear to be behind us.

However, as explained in the following section moves to provide enhanced subject content knowledge have meant that time spent on curriculum areas or the key learning areas, has been significantly reduced.

Term of Reference 7
Examine the preparation of primary and secondary teaching graduates to:
Teach literacy and numeracy. The primary B.Ed course begins with an initial consideration of literacy and numeracy which is co-taught by specialists over the first year. Special consideration is given to ESL and the needs of Indigenous students in *Language for Inclusion*.

Teach vocational education courses. Renewed attention is currently being given to VET in schools as part of a suite of units addressing the Middle Years of Schooling. This is in response to the recommendations of the Secondary School Review (CDU/NTDEET 2004).

Effectively manage classrooms. This is picked up in the dedicated practicum units and is taught in close cooperation with NTDEET personnel. However, in a site-based approach, effective classroom management is best addressed within the ethos and the social ecology of the school. Unfortunately with levels of disruption reaching epidemic proportions in some schools, the teachers that students are placed with sometimes have no answers to the problems being confronted. Some teachers are unable to cope if the student is not 'teacher ready' herself and the student and the university are blamed for this perceived lack.

Successfully use information technology. ICT is currently picked up in the existing curriculum units. However no evaluation or audit of these units has been undertaken.

Deal with bullying and disruptive students and dysfunctional families. See comments in section.

Deal with children with special needs and/or disabilities. This is an area that students frequently choose for their Action Learning projects during the practicum placements following an introductory unit on Inclusion.

Deal with senior staff, fellow teachers, school boards, education authorities, parents, community groups and other related departments. See earlier comments in relation to competency statements. The Bachelor of Education retains a School-Community Research project intended to stimulate teacher research. The project was taught as part of the final in-school practicum. However, because of opposition from practicing teachers who claimed it interfered with what the students should be doing (i.e. taking their classes), the Teacher Researcher unit is now taught separately, but with access to schools provided. The SCRP is meant to be carried out with the support of the school board to which the students report back in joint meetings of the Board and the school staff. This brings students into contact with a much wider range of issues. However, the practicum continues to be restricted to school, Child Care Centres and pre-schools with little access to other sites.

The School also hosts a Celebration of Teaching each year to which mentors and departmental staff who have assisted with the preparation of teachers are invited. The object of this is to redress some of the damaging teacher bashing in the media and to reduce status hierarchies by creating a convivial atmosphere.

The reference to '*achieve accreditation*' in the original list is not understood. It is assumed the reference is to teacher registration. The NT has only recently introduced a Teacher Registration Board, headed by a Dr Suzanne Parry, the former Head of the School of Education. This has meant that the CDU liaises closely with the TRB and the Board itself will be involved in our accreditation processes.

Term of Reference 8
Examine the role and input of schools and their staff to the preparation of trainee teachers.

The introduction of school-based teacher education into the then Bachelor of Teaching (Primary) altered the role and input of cooperating teachers and university lecturers significantly in the following ways:

- The formation of a Standing Committee on the Practicum, deliberately weighted to ensure that the teachers' voice predominated. One member was elected to attend meetings of the School of Education .

- Teachers were encouraged to participate in school-based seminars.

- The role of the lecturer changed from one of examiner to one of coach, mentor and co-learner, and collaborative researcher working closely with Principals and senior staff.

- Workshops were run on reflective practice in conjunction with the beginning teacher competencies and Bachelor of Education (Inservice), and Masters Units were introduced dealing with the reflective practitioner and supervisory practice.

- Additional information setting out the expectations of the partners can be found on the School of Education Practicum website at http://www.cdu.edu.au/ehs/education/practicum/index.html

- Collaborative assessment reports were compiled involving all the participants.

This attempt at School-Based Teacher Education was only partially successful for the following reasons:

- The failure of the NT Department of Education to fully embrace the approach. Although some financial support for an initial inservice to introduce the new approach was received from the Department through the far-sightedness of Dr Terry Quong, SBTE never became a substantive part of the Department's professional development program.

- The eventual demise of the Standing Committee on the Practicum as a result of:

  (1) The intensification of teachers' work and the cost of providing teacher relief which the University initially met until funding was cut.
  (2) This meant that teachers were reluctant to attend the inschool seminars and workshops after hours.
  (3) The dispersal of effort amongst University staff which created difficulties in driving the process.

- The length of the In-School Semester, originally set at 10 weeks, was gradually reduced because the cost of supervising the Practicum proved too

great. The insistence on payment for the training of preservice teachers by cooperating teachers has cost the profession dearly.

- The School-Community Research Project which was a central part of the program was never fully integrated into the In-School Semester. It continues to be thought of by teachers as an unnecessary add-on which gets in the way of core business, that is, actual classroom teaching and an extra pair of hands to help out in the classroom, instead of a key element in community-based education.

It is clear therefore, that the transformation of Teacher Education can only be carried out with the full support and involvement of NTDEET both at an official level through agreed protocols, and at a more informal, personal level through individual contacts and teaming. Boundary spanning is already taking place in some areas, noticeably in Middle Schooling, mentoring, and Science and Mathematics Teaching in rural and remote communities, TQP and Frameworks for Teaching.

Terms of Reference 9
Investigate the appropriateness of the current split between primary and secondary teacher training.

The initial attempts to reconceptualise the practicum were carried out in primary teacher education but have since been incorporated and further developed in the secondary area. Some units such as ESL for Inclusion have adopted a generic structure which means that some components are identical in both. With the renewed interest in Middle Schooling in the Territory as a result of the Secondary Education Review (CDU/NTDEET 2004) debate is continuing as to the best model to adopt. Interestingly enough, initial discussions have centred on who will drive the process, the primary or secondary staff, and whether students should study three subject areas.

Term of Reference 10
Examine the construction, delivery and resourcing of ongoing professional learning for teachers in the workplace.

Underlying this term of reference is presumably, the involvement of the School of Education in ongoing professional development. The contributions made by individual staff in the areas of literacy, the arts generally and certain other areas are considerable. However the reduction in staff has reduced the amount of time available for professional learning. Few staff are involved in regular systematic inservice activity by arrangement with NTDEET. Much involvement in professional learning takes place in the Graduate Certificate in Education which incorporates strands in Special Education, ICT, and Learning Communities, some of which have been designed at the behest of the department and involve practicing teachers in their delivery.

Term of Reference 11
Examine the adequacy of funding of teacher training courses by university administration.

There has been a progressive diminution of resources allocated to Teacher Education since the Dawkins reforms. Changing internal funding models prevent the School from getting an equitable staffing allocation. This semester alone at CDU, the formula by which funding is distributed was changed on no less than three occasions. Education students are the milch cows which enable the rest of the university to get by when enrolment targets are not met.

The practicum remains a major drain on allocated funding and the time has come for separate dedicated funding until such time as there is a reconsideration of the National Award which guarantees payment to co-operating teachers. It is a supreme irony that professional educators should receive a special payment, however small, for initiating novices into the profession. The effect of removing payment would be disruptive in the short term but there would be a number of advantages:

(1) Schools of Education would be forced to use alternative practicum sites such as museums and non-formal programs, and introduce peer pairing arrangements and teaming in those schools agreeing to accept students.

(2) The small percentage of teachers who only take a student because they are paid and provide little in the way of effective SBTE would no longer participate. However, if payment continues, the opportunity should be taken to remove discrepancies. For example, Child Care workers do not receive the allowance given to cooperating teachers in the Northern Territory.

(3) Professional enhancement of the practicum. Insufficient federal government funding has compromised SBTE programs at CDU and reduced the time available to staff to undertake research. A major area of difficulty concerns practicums which take place in rural and remote areas. Travel costs are exceptionally high in the Territory, particularly during the wet season in Semester 2 when many communities are inaccessible by road, reducing the number of visits that can be undertaken by staff. The problem is not insurmountable and the School of Education has pioneered ways of supervising the practicum from a distance. However, where schools have limited experience of SBTE, actual site visits are required.

APPENDIX 1. CHANGING OUR PEDAGOGY: TRANSFORMATIVE KNOWLEDGE-BASED LEARNING COMMUNITIES

Introduction

This discussion paper argues for the introduction of Transformative Knowledge-Based Learning Communities into Schools of Education throughout Australia and should be read in conjunction with my submission to the House of Representatives Inquiry into Teacher Education. A TKBLC is a Knowledge-Based Community dedicated to the pursuit of transformative learning employing the use of web-mediated communication and networking. In the early nineteen nineties, a number of Universities made a significant break from traditional forms of Teacher Education to a

school-based (or site-based) approach to Teacher Education which focussed on work-place learning, school-university partnerships, constructivist teaching, critical pedagogy, action research and reflective practice. Although the full introduction of site-based teacher education was never achieved (Grenfell 1999), the time has now come to evolve to embrace a transformative approach to teacher education. Such a move will necessitate radical changes to the current organisation and delivery of Teacher Education.

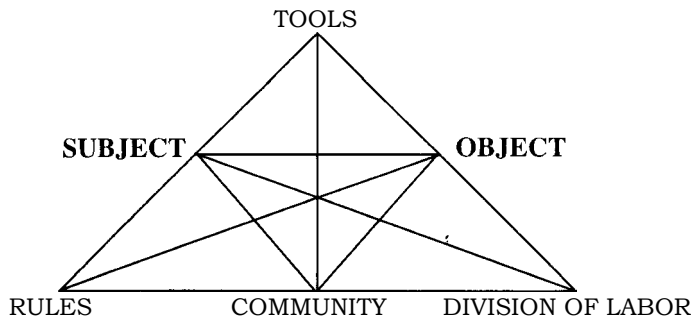
Recent advances in Teacher Education

Since the move to School-Based Teacher Education (SBTE) over ten years ago, there have been considerable developments which have impacted on Teacher Education. These advances include an understanding of socio-cultural influences on learning through the application of Activity Theory; a re-examination of the relationship of teaching and learning; and the reconstitution of schools as communities of learners based on work into the operation of communities of practice. These advances are beginning to impact considerably on our practice.

Socio-cultural approaches and Activity Theory

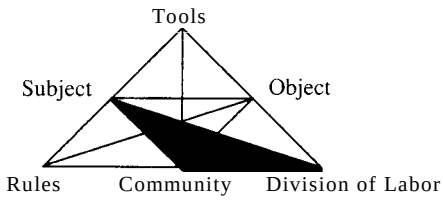
Socio-cultural approaches to learning see knowledge as *distributed* throughout the social group and *situated* in cultural, historical and social contexts. Socio-cultural approaches have culminated in the work of Engeström whose Cultural Historical Activity Theory (CHAT) provides a powerful tool for analysing educational systems in general, and university provision in particular. (See Hewitt, 2004 for a comprehensive introduction to Engeström's work). Activity theory has emerged in part as a result of the general unease felt with the earlier reliance on Action Research which is now considered to episodic, solipsistic and lacking integration. In Activity Theory the focus is on sustained human endeavour with a long-term purpose and strong motives. It comprises sets of actions and operations planned with specific goals in mind which are not meaningful in themselves unless they are part of an activity . Activity theory legitimates alternative sets of actions operating simultaneously and possibly in conflict. It is possible to identify sets of interrelated activities around a central activity which are systemic in the sense of various interdependent relations integrated in a dialectical process, where mental and external forces force each other forward.

The overall model of an activity system is given below. This model can be adapted to a typical primary classroom or a KBC classroom. The diagram is take from Hewitt (2004, p215).



Applied to a KBC the *Subject* is the student as an intentional learner;
the *Object* becomes Knowledge-Building Discourse;
The term *Tools* incorporates the Knowledge Forum itself including networked computers;
Rules encompass the guidelines for work on the Knowledge Forum and a negotiated code of behaviour;
Community refers to the Knowledge Building Community; and
Division of Labour comprises the way that groups of students work collaboratively on different problems.

It is now possible to undertake a microanalytical examination of the interaction engendered between different components of the model. For example the following diagram taken from Hewitt (2004, p220) focuses on Subject-Community-Division of Labor: Roles and Responsibilities of Community Members.



Activity theory looks at humans as tool users. Human activity is inherently mediated by tools, which change not only the physical conditions of life *but also mental processes*. This is absolutely crucial in considering a transformative program as the ontological changes caused by the technology have to be considered. Human thought and behaviour is said to be culturally mediated via tools. The term 'tools' is used generically for objects and other phenomena that can externalise accumulated human experiences and includes both specific instruments like hammers and general semiotic arrays such as language. Such tools provide possibilities and constraints on actions, and the perceptions of the person using them.

Personal computers therefore provide possibilities for learning in that they provide access to historically accumulated experience in condensed form but also possess inherent constraints because 'condensing one perspective in the tool renders others perspectives less accessible' (Hewitt 2004, p183). Generally speaking the rush to exploit web-based learning has led to an oversimplistic, rhetorical, unproblematic acceptance of the perceived benefits. The socio-cultural effects of the technologising of society have been identified by Lash (2002), and ways in which the web can be considered contested territory are dealt with by Burbules (2002) who demonstrates how the design of portals shapes access to the Web, and how search engines provide direct lines of inquiry into certain sites rather than others by employing devices to gain "eyeballs" and maximize number of visitors. 'All of these have semantic implications which shape and constrain the range of possible meanings users can derive from their investigations.'

From the perspective of CHAT, complex human activities cannot be fully understood using a smaller unit of analysis. To grasp the essence of something is to understand how it has developed into what it is now. (Hansen, et al 1999)

Intercultural movement

As diverse groups interact and relate to each other, this gives rise to intercultural movement whereby cultural change takes place in highly unpredictable ways calling into question earlier approaches to multiculturalism based on cross-cultural workshops, social engineering and political correctness, and leading to a re-examination of critical pedagogy.

Communities of practice.

Wenger's work on communities of practice has identified the way in which novice members of the community acquire full membership and expertise through the process of legitimate peripheral participation. However, in his more recent writing, Wenger (2002) has identified the potential drawbacks of communities of practice:

Communities of practice hoard knowledge, limit innovation, and hold others hostage to their expertise. Some forms of mentoring embraced by the Public Service and appropriated by government organizations contribute to this process.

Knowledge is sometimes viewed as domain based and hence liable to the temptations of ownership.

Some communities of practice, particularly at University level, are characterized by arrogance, knowledge exclusivity, and imperialism. Members of different communities of practice may believe their perspective should prevail and they end up talking past each other. Getting it right oneself and pushing ones own ideas supplants the need to find common ground and make progress together. (Wenger 2002, p142). This leads to the emergence of the "knowledge police". Anyone working in that domain should consult them or even be forced to do so. In this regard, it is instructive to examine the introduction of Curriculum Frameworks and Standards procedures in various jurisdictions in Australia

Knowledge communities are prone to narcissism, marginality and factionalism. Marginality produces shared discontent and the consequent lack of effectiveness results in a drain on their energies and a disincentive to investing more of oneself. (p143). Communities of practice therefore face the problem of cliques, when a powerful core group acts as an imperious gatekeeper.

Communities of practice can also suffer from the problem of egalitarianism whereby individual members find it difficult to stand out or take risks.

Localism can also affect the effectiveness and potential of communities of practice.

Wenger also draws attention to the rise of *documentism*. This refers to the process where documentation becomes an end in itself: the papers, the memos and the web site come to define the community and produce an information junkyard. NT teachers are well aware of this scenario.

Learning communities or communities of learners.

Considerable research has been undertaken into the changing nature of community and the recognition of social presence. Our concept of community has now been extended to include virtual communities.

Recent moves in the Northern Territory to embrace the concept of Middle Schools or Middle Schooling together with precincts, incorporate the principles on which communities of learners are based.

Transformative Learning.

The following is a cut and paste synopsis of Transformative Learning taken from Edmund O'Sullivan's *Transformative Learning: Educational Vision for the 21st Century* (1999) with additional commentary.

For O'Sullivan (1999), transformative education considers the current forces of transnational economic globalisation as associated with the most destructive and malignant forces of modernism which are endangering a sustainable planetary habitat. Corrective feedback from local populations is ignored and western nations remain immune to the consequences of unsustainable land and resource management practices. Meanwhile those in the first world have become alienated spatially and psychologically from the land and appear to be suffering from a collective ecological blindness.

To rectify this situation, O'Sullivan maintains that we need to engage in thinking 'at an incredible order of magnitude' because 'the terror here is that we have it within our power to make life extinct on this planet' (p7). All educational ventures therefore, must be judged against this realisation. Nothing short of a radical restructuring of all current educational directions will suffice. We need to engage in deep cultural therapy and seek a newly formed cosmology which looks at the elements from which we and the universe are constructed.

There are numerous indicators that suggest education is in a period of decline made worse by the emergence of ahistoricism as space and time are being emptied out and the importance of the narrative is distorted and undervalued. This is the real importance of Fukuyama's speculative thesis on *The End of History*. The situation is exacerbated by the emergence of managerialism which serves the interests of neo-rightist and neo-liberal governments. This development produces a breakdown in the relational quality of not only human life, but life in all its forms. It is for this reason that the outpouring of sympathy and support for the nations experiencing the recent tsunami was so significant.

Formal education institutions are being enlisted to prepare the next generation for the needs of the global marketplace. The implication is that education must now act as the formative institution of transnational globalisation, whilst maintaining the rhetoric of competition, excellence and the unique contributions of particular groups. A cursory glance at the Curriculum Framework and Standards documents around Australia reveals this connection.

Transformation learning therefore has to ensure survivability and trivability at three levels: the planetary, the community and the personal. So far, educators have failed to

engage with the level of change that is required. Citing Berman (1981), O'Sullivan identifies a number of significant issues including the collapse of communism, the general dysfunction of institutions, the revulsion against ecological spoilation, the increasing inability of the scientific world to explain the things the really matter, the loss of interest in work, and the statistical rise in depression, anxiety and psychotic illness.

A major component of any transformational program must be critical resistance. In devising a program of critical resistance, O'Sullivan begins with the concept of hemispheric or structural global economic privilege (p128). In this connection, numerous reports have identified the failure to address human rights and equity issues both in the developing world itself and within countries like Australia. North-South imbalances continue and there has been little progress in achieving emancipation from privilege and escaping from the destructive course of consumerism. In Australia and the Northern Territory, we have been fobbed off with public admissions of the unsatisfactory outcomes from Indigenous education, pious and unctuous 'motherhood' statements, broad, ill-thought out recommendations for improvements, and dubious 'implementation' committees operating in a climate of footdragging and stonewalling by those who demonstrate a seeming immunity to events.

Central to O'Sullivan's thesis is the concept of environmental racism which refers to the systematic degradation of land or peoples following systematic racialism and subjects them to ecological vulnerability.

Transformative learning takes place in a planetary context, not simply a globalised one. We need to awaken to our own vulnerability as a species and the consequences of our own activities (p180). A new type of reflection is required which invokes our primordial experience and makes the *bios* central. We are not simply entering 'new times' but a new age of the earth (p180). Such moments of reflection, in between stories, constitute moments of creative opportunity to enable us 'to survive, critique our current dysfunctional state, and create and envision vibrant structures to address our vital needs' (p181).

It is crucial to realize what O'Sullivan is advocating here. This is not a narrative about environmentalism or environmental education. A total revolution of consciousness is required which embraces 'deep ecology' fused with a cosmological horizon which is creative in nature. Imitation, borrowing and copying will not meet the demands of such a shift. Tinkering with the curriculum will not suffice. The importance of traditional Indigenous wisdom and knowledge to the working out of world views is of profound cosmological significance (p197).

For O'Sullivan, a major focus in resisting the ecological blindness of globalization, is the bio-region. In a movement of such cosmological proportions, O'Sullivan sees astronomy, earth science and evolutionary sciences of life, both in chemistry and biology, moving to centre stage, whilst historical studies would focus on the history of the earth, the circle of life, diversity and interdependence. By coupling indigenous science with contemporary earth science, an extended form of ecological literacy would be taught (p201-2).

As the current Desert Knowledge Centre in Alice Springs reveals, the bio-region is an identifiable geographical area of interacting life systems that is relatively self-sustaining in the ever-renewing process of nature. The full diversity of life-functions is carried out, not as individuals or species, or even as organic beings, but as a community that includes the physical as well as the organic components of the region. (p202).

Finally, transformation learning invokes component life systems which are self-propagating, self-nourishing, self-educating, self-governing, self-healing and self-fulfilling. (p202). In providing for the ecological self educators must provide for the integration of the basic dimensions of differentiation, subjectivity and communion.

To sum up, in a contribution to the book *Expanding the Boundaries of Transformative Learning*, O'Sullivan (2002) reiterates that transformative learning encompasses an education for survival, an education for critical understanding, and an education for integral creativity.

A new model of course delivery

The model of course delivery I would like to see adopted more widely is a variation of the University of Wollongong's Knowledge Building Community (KBC) model (Kiggins 2001) which was developed from the work of Scardamalia and Bereiter (1994, 1996) in the United States.

The Knowledge-Based Community at The University of Wollongong Program

(This section is taken from notes provided by Dr Julie Kiggins during her visit to the then NTU in 2002.)

The Wollongong program worked with a cohort of 10% of the total pre-service student population. There were 22 primary students in the first year of the program in 1999. This had risen to 75 students across all three years of the program in 2001. Given the reduced numbers at CDU, this would not be a viable option and we would need to introduce all students into such a progam after year 2.

The project had the support of the NSW Training and Development Directorate of the Department of Education, four local primary schools and the Teacher's Federation.

Students were grouped into home groups with one university lecturer acting as a tutor and coach for each group of students. The students had practical components in their course for one whole semester for each of the four years. When doing the practical component they spent half of their week in schools and the other half at university. The practical sessions began in the fourth week of the first semester. There were no lectures or tutorials during the time set aside for practical work. In the second semester of each year they went to lecturers and tutorials along with the other students. In the first half of the year, they covered only curriculum units.

The students begin their entire course with a unit that looks at how to become problem-based learners. They then look at the learning outcomes for the curriculum

units as set out for those students pursuing the traditional program. They then deconstruct them and set about negotiating how they will achieve the outcomes.

All assessment is negotiated.

The Wollongong teachers worked with the New Basics and Productive Pedagogies and were trained in these. This meant that there was a common focus for shared work experience which is missing in the NT.

This model contains the following features:

- *Problem-Based Learning (PBL).* This incorporates the school-community research projects introduced into the Bachelor of Teaching in 1993 and the more recent work to prepare agents of change in the secondary course. I am not talking here of simulations or problems *given* to learners by the teacher/lecturer. Problems have to be real and authentic, and identified by the community. This fits with a community development approach to education in that problems may well include health and safety issues, environmental and ecological concerns, ethnographical and linguistic developments, and cultural response(s) to external threat originating with globalisation such as the exploitation of traditional lands and Indigenous knowledge by agricultural and mining conglomerates. The majority of the learning takes place outside of the traditional classroom on a contractual basis. However, the Wollongong experience suggests that the way that PBL is introduced requires careful attention. The introductory problems devised for the groups at Wollongong proved too vast and time consuming in the first two years of the program.

- *Transformative education.* The approach adopted in the BEd (Inservice) (see for example the course materials for EDB408 *Professional Development for Learning Communties* designed by Karen Sinclair and myself), and in the Masters program (EME502: *Challenging Perceptions*), is that of O'Sullivan (1999; 2002), complemented by that of Mezirow (2000). All of the 'problems' mentioned in the previous section fit with a transformative approach. Transformative education also incorporates moral education, values education and civil education. Other conceptions of transformative education are welcomed. A key area incorporates identity and identity construction

- *Collaborative team teaching using models developed for Middle Schooling* (See EME532 Middle School Issues). The focus is on the development of communities of learners. A KBC is a special kind of Community of Practice (CoP) involving knowledge creation, not simply construction of specific products or completion of tasks to meet portfolio demands. Interaction and interconnectivity through supportive networks are promoted.

- *Self-directed learning.* Taking responsibility for one's own learning is one of the four key pillars in the Wollongong approach. (See Kiggins, 2001 - I have the original AARE paper and the PowerPoint presentation Julie gave when she came up to Darwin, but couldn't get the diagram to scan in!). Those who were present will remember that the other pillars were learning through professional collaboration, identifying and resolving professional problems, and becoming

a reflective practitioner which extends to affectivity, perturbation, emotional intelligence and interiority. The KBC process at Wollongong is explicitly focussed on reducing student and staff workloads by integrating and combining individual knowledge acquisition to form shared communal knowledge, and making the best use of time in schools to support what experienced practitioners/mentors belief novices need to learn.

- *A blended approach*. A blended approach incorporates ICT and on-line learning with Face-to-Face (FtF) teaching. Central to the KBC in Scardamalia and Bereiter's conception is the computer-supported Knowledge Forum in which learners publish their notes in a collaborative space. The Knowledge Forum is made up of 25-32 students and occupies approximately 30 mins per day. 'Progress' in the Knowledge Forum is defined as adding notes that advance the existing discourse, for example providing a new theory, asking a question that no one had previously asked, or sharing information from resource materials. Topics last for up to two months (p218). Individual learning is continually driven forward by a need to build on the community's existing knowledge base. In the forum 'there are no products to speak of, just the preserved traces of electronic discourse'. (Hewitt 2004, p212). 'The work explores complex relationships which exist between online and FtF worlds and the ways in which communal practices and supports can be distributed across these modalities in pedagogically powerful ways.' (p211).

- *Home rooms and open sites.* Progress is charted on electronic bulletin boards for public viewing similar to the arrivals and departures in the airport lounge. (There is such a screen in the School of Business although it is used for different purposes). Space and time compression mean it is essential to know where everybody is, what projects are being undertaken, and what additional resources are available. An open site is necessary which can accommodate all of those enrolled in the program.

- The focus has now moved from Action Research and reflectivity, to activity theory encompassing social action projects at a variety of sites, not restricted to schools.

Scardamalia and Bereiter (1993) describe a classroom-based KBC as follows: [Scanned in from Hewitt 2004, pp216-217].

1. There is a sustained study of topics in depth, sometimes over a period of months, rather than superficial coverage.

2. The focus is on problems rather than on categories of knowledge: not "the heart" but "how does the heart work?"

3. Inquiry is driven by students' questions. The teacher helps students formulate better questions and encourages them to reformulate questions at higher levels as inquiry proceeds.

4. Explaining is the major challenge. Students are encouraged to produce their own theories to account for facts and to criticize one another's theories by confronting them with facts.

5. Although teachers pay close attention to how each student is doing, the day-to-day focus is progress toward collective goals of understanding and judgment rather than on individual learning and performance.

6.. There is little schoolwork of the conventional kind, where the students are working individually but all doing the same thing. More typically, students work in small groups; each group has a different task related to the central topic and plans how to distribute work among its members.

7. Discourse is taken seriously. Students are expected to respond to one another's work and are taught how to do so in helpful, supportive ways.

8. The teacher's own knowledge does not curtail what is to be learned or investigated. Teachers can contribute what they know to the discourse, but there are other sources of information.

9. The teacher remains the leader, but the teacher's role shifts from standing outside the learning process and guiding it, to participating actively in the learning process and leading by virtue of being a more expert learner.

Discrepancies between our espoused beliefs and work-place practices

There is a noticeable gap between our espoused beliefs and educational understanding, and our practice which contradicts much that we actually advocate or introduce into our current programs. Some of the more obvious discrepancies are:

- There is no agreed policy for the introduction of Computer-Mediated Learning (CML) or web-based learning and where courses are delivered online the potential of the medium is underexploited. For example, there has been only limited take-up of multimedia and hypermedia approaches. The ground-breaking work of the CUSTD team with reference to simulation activity, problem-based learning and role play has not been systematically exploited across the school. Practicum courses make limited use of authentic material obtained by videoing classroom interaction this devaluing much of the collective knowledge and understanding produced at the work-place.

- The architecture of the Education Building and the resources available do not make it easy to encourage the adoption of a genuine Middle Schools approach that enhances the ethos of a community of learners. Several years ago the then School of Health and Education had the opportunity to develop a state of the art educational facility in Palmerston. With the renewed interest in the Palmerston Secondary School precinct and DEST proposals for a technical high school, the time is now opportune to re-examine the original proposal for the School to move to Palmerston.

- It has been argued that incorporation of transformative education into the new Bachelor of Education and Graduate Diploma of Education courses, together with the recommendations for the progressive introduction of the Middle Years of Schooling across the Northern Territory contained in *Future Directions*, have considerable implications for the pedagogy adopted within the School of Education. The School will need to model transformative

education within a context of Middle Schooling. This will necessitate considerable modification to our current pedagogy and work practices.

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