FROM VICIOUS TO VIRTUOUS CIRCLES:

Improving Educational Effectiveness
Through Action Research

by

Ron Passfield

Griffith University (Nathan)

Paper for the Australian Association for Research in Education (AARE)

Draft only - not for quotation.

FROM VICIOUS TO VIRTUOUS CIRCLES:

Improving Educational Effectiveness
Through Action Research
The Department of Education, Queensland, is being transformed in response to discontinuous change in its environment. The transformation is occurring as senior management moves to restructure the Department in line with a new strategic vision. Underlying the vision and consequent restructuring is a major paradigm shift - from centralization (technical efficiency) to decentralization (responsiveness). The new paradigm is encapsulated in the term "focus on schools" and articulated through the commitment to a new set of guiding principles (values and beliefs). The task ahead is to develop a new culture that mediates the tensions between the old and the new paradigm. Vicious circles, leading to cultural disintegration, arise when the tensions between competing values are left unreconciled; virtuous circles, leading to development and improvement, result when the dilemmas are reconciled and synergised. Senior management is now confronted with the challenge of putting in place a process for managing the transition in organizational culture. The author argues that the way ahead is to institutionalize action research within the Department. The action research process communicates the desired end result (vision) and provides the means to achieve it.

1. INTRODUCTION

The Department of Education in Queensland has determined its purpose, goals and strategies for the period 1991-1995. They are intended to provide the "focus for development and improvement" in education in Queensland (Development Plan 1991-1995, Dept. of Education, Qld.)

A number of external and internal factors currently impacting on the Department provide the context (the "why") for this strategic choice:

- social, economic and technological change
- student mobility and retention rates
- external requirements for efficiency, responsiveness and accountability.
(Development Plan 1991-1995)

The content (the "what") of the Department's formulated strategy includes the reorganization of departmental structures and improvement in management processes. A key element in this restructuring is the devolution of central office functions and the creation of decentralized school support centres.

The concept of the school support centre provides the clearest expression of the Department's vision for the future:

This cooperative approach to school improvement and development will be coordinated through school support centres where, in an environment designed to foster participation and enterprise at schools and in clusters, the sharing of resources and professional expertise that has already begun will be further developed. Because these centres will exist solely to
provide services to schools, their operations will ensure that departmental activity focuses on the classroom and that support for students' learning needs is available from a source closer to schools than ever before. ("Focus on Schools", Department of Education, p.56).

This paper addresses the strategic management process (the "how") required to give effect to the desired strategic change and the Department's stated purpose:

to help students to develop as independent and knowledgeable people who are morally and socially responsible, employable and capable of self-fulfillment and of contributing to society. (Development Plan 1991-1995, Dept. of Education)

The complexity of the task of developing an appropriate strategic management process flows from the nature of the change and its impact on the existing internal context, the culture, of the Department. The author contends that the Department is undergoing transformational change and senior management is now confronted with the task of developing processes to manage the transition to a new paradigm.

2. TRANSFORMATIONAL CHANGE: A PARADIGM SHIFT

Transformational change occurs when radical changes are made to an organization's purpose, goals, strategies and systems. Dunphy & Stace (1990, p.72) suggest that such corporate transformations involve many of the following aspects:

- Reformed organizational mission and core values
- Altered power and status affecting the distribution of power in the organization
- Reorganization - major changes in structures, systems and procedures across the organization
- Revised interaction patterns - new procedures, work flows, communication networks and decision-making patterns across the organization
- New executives from outside the organization in key managerial roles.

Each of these elements are present in the current changes affecting the Department. Such transformational change involves a 'paradigm shift' (Dunphy & Stace, 1990, p.155). It parallels what Kuhn (1990, p.180) describes as the 'paradigm-shattering' nature of scientific revolutions.

Kuhn (1970, p.175) defines 'paradigm', in its sociological sense, as:
the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community.

He suggests that the elements that make up the resultant 'disciplinary
matrix' for a given professional community include common language/symbols, shared beliefs in particular models, shared values and exemplars (p.182). 'Beliefs' involve shared commitments and also determine for the group what are "preferred or permissible analogies and metaphors" (p.184). 'Exemplars' are problem-solution sets that are learned in pre-service training and subsequently reinforced by periodical literature. They also show group members "how their job is to be done" (p.187).

Thus the key characteristics of a paradigm can be summarized as follows:

. ways of viewing the world (beliefs and values)
. ways of acting in the world (methods and exemplars)
. a social matrix that provides a supportive institutional environment.
(Mohrman & Lawler, 1985)

Kuhn (1970) makes the point that not all members of a community have to share the same system of beliefs and values for a paradigm to exist. It can still hold sway over the majority particularly if it is supported by the entrenched dominant coalition.

The foregoing discussion of 'paradigm' provides some insight into the magnitude of the task of achieving the paradigm shift demanded by the transformational change occurring in the Department of Education. An understanding of the extent and direction of this 'shift' is essential before an appropriate process for managing the transition can be determined.

3. THE PARADIGM SHIFT IN THE DEPARTMENT OF EDUCATION, QUEENSLAND.

In the information age, organizations need a paradigm that can deal with complex relationships, with employees and with customers, and around subtle questions of value.
(Hampden-Turner, 1990, p.204)

The paradigm operating within an organization is mirrored in its configuration - the choice of a particular combination of strategy, structure and culture (Limerick, 1991). The movement by the Department of Education away from a functionally driven, centralized structure to regionally based, school support centres involves a basic change in configuration and signals an associated paradigm shift.

Functional structures focus on technical efficiency as the appropriate strategy for an environment that is perceived as relatively stable. Specialization based on function or discipline is developed and supported by a well-defined hierarchical structure. Relatively restricted orientations preclude inter-disciplinary collaboration. Decision making is centralized and somewhat removed from the day to day operations. Culturally, the organization is characterized by formality and technical
excellence with a high value placed on expert knowledge. While such a configuration can achieve high levels of efficiency, it is relatively unresponsive (Limerick, 1991).

School support centres, on the other hand, involve decentralized, regionally based structures that are tailored to the specific geographic and demographic characteristics of the region. The fundamental strategy is to move resources closer to schools to make them more accessible and responsive to changing needs. Culturally, the core values will be responsiveness and the encouragement of initiative and enterprise in schools. Relationships with schools "will be based on support, cooperation and collegiality" ("Focus on Schools", p. 58). There will be a strong emphasis on networking to provide mutual support and collaboration between schools and across school support centres.

Underlying the Department's restructuring is an expressed commitment to the following set of values and beliefs:

- Respect for people
- Lifelong learning that empowers individuals and groups and enriches society
- Participation and consultation
- Professionalism
- Responsiveness to diversity and changing needs
- Equity and social justice
- Quality and effectiveness
- Accountability for our actions and outcomes
- A shared vision for the future

(Development Plan 1991-95)

Chippendale and Colins (1990), drawing on the work of Hall (1986), suggest that the relative priority given to a particular cluster of values provides an insight into the dominant world-view in an organization. The abovementioned cluster suggests that the Department is attempting to move to 'world view 5' which emerges in an organization as a 'collaborative culture'. In contrast, the old paradigm can be described as 'world-view 3' which is reflected as an 'institutional culture' within the organization.

The institutional world-view, represented by the old paradigm, places priority on values associated with belonging, duty, prestige and success. Chippendale & Colins (1990, p. 13) express this world-view in the following way:

The world is a problem with which I am expected to cope by belonging, becoming educated, and by making a living. It is important to be successful and to please those who control one's future.

The collaborative world-view, represented by the new paradigm, places priority on values such as service, equality, co-operation and self-
actualization. This world-view can be expressed as follows (Chippendale & Collins, 1990, p.13):

The world is a project in which I wish to participate by offering my unique gifts and skills. I want to see organizations and other social institutions become more humananized and congruent with their espoused values.

At the more visible level, the differences in the two paradigms will find expression in variations in the language and symbols used in everyday life. The old paradigm employs the language of the expert and uses symbols that emphasize differences and status; the new paradigm's language is that of a learner who uses symbols that express mutual respect and professionalism.

The foregoing discussion, which is summarized in Table 1, gives some indication of the extent and direction of the proposed paradigm shift in the Department of Education.

TABLE 1: THE PARADIGM SHIFT IN THE DEPARTMENT OF EDUCATION, QLD

<table>
<thead>
<tr>
<th>OLD PARADIGM</th>
<th>NEW PARADIGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE</td>
<td></td>
</tr>
<tr>
<td>expert</td>
<td>learner</td>
</tr>
<tr>
<td>SYMBOLS</td>
<td></td>
</tr>
<tr>
<td>differences</td>
<td>mutual respect</td>
</tr>
<tr>
<td>status</td>
<td>professionalism</td>
</tr>
<tr>
<td>BELIEFS/VALUES</td>
<td></td>
</tr>
<tr>
<td>control</td>
<td>responsiveness</td>
</tr>
<tr>
<td>conformity</td>
<td>initiative</td>
</tr>
<tr>
<td>expertise</td>
<td>effectiveness</td>
</tr>
<tr>
<td>efficiency</td>
<td>equity</td>
</tr>
<tr>
<td>accountability</td>
<td>accountability</td>
</tr>
<tr>
<td>(internal)</td>
<td>(external)</td>
</tr>
<tr>
<td>order</td>
<td>empowerment</td>
</tr>
<tr>
<td>METHODS</td>
<td></td>
</tr>
<tr>
<td>specialization</td>
<td>collaboration</td>
</tr>
<tr>
<td>surveillance</td>
<td>participation</td>
</tr>
<tr>
<td>EXEMPLARS</td>
<td></td>
</tr>
<tr>
<td>inspectorate</td>
<td>school support centres</td>
</tr>
<tr>
<td>WORLD VIEW</td>
<td></td>
</tr>
<tr>
<td>institutional</td>
<td>collaborative</td>
</tr>
<tr>
<td>STRUCTURE</td>
<td></td>
</tr>
<tr>
<td>centralized</td>
<td>decentralized</td>
</tr>
<tr>
<td>functional</td>
<td>geographical</td>
</tr>
<tr>
<td>hierarchical</td>
<td>horizontal</td>
</tr>
</tbody>
</table>

Dunphy & Stace (1990, p.155) suggest that a paradigm shift creates considerable stress for "those whose lives are captured by the prevailing
culture of the organization”. The changes will challenge their ways of viewing the world (beliefs and values) as well as their ways of acting in the world (practices and exemplars) because structural and institutional support for their paradigm has been withdrawn. Management processes must be set in train to ensure that this destructive aspect of transformational change does not create a vicious circle.

4. FROM VICIOUS TO VIRTUOUS CIRCLES: MANAGING THE TRANSITION TO A NEW PARADIGM

Structural change is a necessary but insufficient condition for transformational change. At most, it signals and supports a paradigm shift. The real challenge is to create an organizational culture that will mediate the tensions between the old and the new paradigm (Hampden-Turner, 1990).

Organizational culture, unlike structure, cannot be changed by edict (Tunstall, 1986). The prevailing culture in an organization is seen by researchers and practitioners as a real constraint to corporate change and development (Passfield, 1989). Cultural change tends to occur at a much slower rate than other changes such as restructuring and redirection of strategy. Dunphy & Stace (1990, p.188 ) suggest that culture can become "a reinforcer of the status quo rather than an impetus for change" and can "powerfully compel continuing conformity to past patterns". 'Cultural lag' often occurs because the ruling beliefs and ideas, developed under earlier conditions, continue to influence managerial behaviour even though the external and internal environment has changed dramatically.

For transformational change to be effective, it is imperative that the cultural change is managed (Dunphy & Stace, 1990). Transformative change places heavy demands on executive management in terms of the need to choose a change management process that takes into account the current political and cultural realities of the internal environment of the organization (Pettigrew, 1986).

Hampden-Turner (1990) maintains that the main function of culture is to mediate the dilemmas and tensions confronting an organization. Organizations need to achieve a balance between external and internal adaption, centralization and decentralization, continuity and change, and many other dilemmas. Excesses on either side of the dilemma can unbalance the organization. Synergy is realized when these conflicting pressures are reconciled. A lesser resolution of the tension is achieved when compromise or conflict is allowed to prevail. Leadership is critical to manage cultural values so that they are 'mutually enhancing' (Hampden-Turner, 1990, p.28). Failure to do so, especially during a time of transformational change, can lead to vicious circles.
Vicious circles arise where lack of management action permits an adversarial stance and allows the tensions to remain unreconciled. Where proponents of the old paradigm are permitted to insist on formality and centralization at the expense of informality and responsiveness, there will be a tendency for informal resistance to grow to a point where the organization loses control of its operations. Increasing attempts to regain control through greater levels of formality and centralization will lead to further resistance, resulting in a vicious circle:

Each opposed side of the circle (or "horn" of the dilemma) frustrates the other, contends with it, and contradicts it. Hence the culture as a whole is never effectively formalized, nor does it enjoy opportunities for informal operations without these being fiercely assailed. It is neither well centralized, nor properly decentralized, because of the hostility and mutual impedance among these aims. There may be fierce rhetoric in support of the values involved, but it will not be realized. (Hampden-Turner, 1990, p.30)

On the other hand, virtuous circles are characterized by reconciliation and synergy. Dilemmas are traded off through mutual restraint and the development of a creative, rather than destructive, tension. The central authority promotes informality and encourages initiatives. Successful initiatives are integrated into the formal system and promoted throughout the decentralized structure. Informal activities increase and the culture becomes "more decentralized and at the same time better centralized in the sense of guiding and coordinating the autonomous activity of its units" (Hampden-Turner, 1990, p.32).

The Department of Education has explicitly acknowledged the inherent tensions in the paradigm shift resulting from its strategic action:

....Many of the solutions to educational issues of the past are no longer appropriate in today’s changing environment....... Within this context, a number of conflicting interests have emerged. Two conflicting interests are the move to increase centralism in order to rationalise the overall use of resources and the move to provide decentralized services to meet local, specific needs. Tension also arises when the interest to maintain bureaucratic control conflicts with the desire to meet the needs of a highly qualified workforce. ("Focus on Schools", p.v).

The challenge confronting the Department is to mediate the tensions between the prevailing culture and the future vision without precipitating the collapse of existing operations (Dunphy & Stace, 1990; Morgan, 1986). What is required is a process for developing a mediating culture that will result in virtuous circles and achieve synergy amongst the competing values.
5. THE CHALLENGE OF MANAGING CULTURAL CHANGE

Kilmann, Saxton & Serpa (1986, p89) describe organizational culture as "the shared philosophies, ideologies, values, assumptions, beliefs, attitudes, and norms that knit a community together". Dalmau & Dick (1987, p.4) suggest that culture is a "coherent system of assumptions and basic values which distinguish one group or organization from another and orient its choices."

Schein (1983, p.14) argues that fundamentally culture is the learned assumptions that create meaning for, and define the character of, a particular organization:

Organizational culture, then, is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaption and internal integration - a pattern of assumptions that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Managing organizational culture is a complex task which is made all the more difficult where a paradigm shift is involved. The articulation of a new mission statement, strategy and structure attacks the current pattern of assumptions but also creates the need to win commitment to a new pattern that will provide meaning for the organization. Pettigrew (1986) identifies seven key factors that make it difficult to make even moderate changes to organizational culture. Each of these factors are discussed below because they highlight the difficulty of achieving major cultural change.

Organizational culture is a 'multi-layered affair' (Dalmau & Dick, 1987, p.18) and exists at a number of levels in an organization. Lundberg (1985, pp.171-7) suggests that there are four levels of culture which reflect varying levels of individual awareness. At the observable or surface level of culture are the artifacts that find expression in language, behaviour, stories, slogans, mission statements and rituals. By contrast, at the deepest, out-of-awareness level are the basic assumptions (unconscious beliefs) referred to by Schein (1983). In between the visible and invisible levels of culture are perspectives (norms and rules) and values. The latter is referred to by Kuhn (1970, p.184)) as 'he more metaphysical parts of paradigms'. The influence between deeper and shallower levels of culture is bi-directional. However, we cannot assume that changing the more visible levels (eg. behaviour) will lead to lasting cultural change at the deeper levels of values and assumptions (Dalmau & Dick, 1987, p.25; Argyris, Putnam & McLain Smith, 1985).

Because it operates at multiple levels, culture is pervasive. It not only involves individuals and their roles, but also influences structures, systems, policies, purpose, products, rewards, strategies and human
resource management practices. Kuhn (1970) maintains that values shape our perceptions and their interpretation; while Hampden-Turner (1990) argues that culture shapes our judgments.

So much of culture is thus implicit and 'taken for granted' by organization members as the appropriate way to think, feel and behave (Pettigrew, 1986). Culture shapes an organization's approach to problem solving and its orientation to change (Bate, 1984). It has a decisive influence on both decision premises and outcomes (Morgan, 1986). However, rarely are the cultural 'givens' explicitly discussed or scrutinized. They frequently constitute the 'undiscussable' in an organization and are surrounded by 'defensive routines' (Argyris, 1985). These 'cultural defensive routines' inhibit organizational learning and act as barriers to strategic change (Argyris, 1967; Argyris et al, 1985). Thus the tacit system of knowledge and images derived from an organization's culture, prevent constructive exploration of alternative frames of reference:

He or she articulates them [values and images], defends them and feels deep emotional investment in them, but typically has not made the value system, as a system, the object of reflection. (Fowler, 1981, p.162 cited in Colins and Chippendale, 1991)

Culture is deeply imprinted. It has its roots in organization history and the role of founders (Schein, 1983). It is transmitted to new members through socialization processes such as recruitment, training and development, reward systems, and modelling (Pascale, 1985). It is preserved and communicated in symbolic form through myths, stories, metaphors, rituals, ceremonies, heroines & heroes, metaphor, humour and play. These symbols serve to reconcile dilemmas and paradoxes confronting organization members and are used to "bring meaning out of chaos, clarity out of confusion, and predictability out of mystery" (Bolman & Deal, 1991).

Corporate culture is political (Dalmau & Dick, 1987). Various power groups within an organization have a vested interest in maintaining the prevailing set of beliefs, values and assumptions (Pettigrew, 1986). As culture provides a 'set of control mechanisms', there are groups in an organization that stand to lose power and influence when cultural change occurs (Cohen & Lachman, 1988). Changes, even at the more visible levels of culture, will be strongly resisted by these groups who will use their power to work against the organization's strategic reorientation.

There is increasing agreement that organizations involve a plurality of cultures. One form of such sub-cultures, the counter-culture, can "present a direct challenge to the core values of the dominant culture" (Martin & Siehl, 1983, p.54). A key influence on the power of sub-cultures is their centrality to the workflow (Cohen & Lachman, 1988). Thus paradigm shifts, involving major structural and cultural change, can create severe disturbance at the sub-cultural level and result in dysfunctional behaviour.
The final factor making it extremely difficult to change culture is the interdependency of the various elements of culture - "culture is interconnected not only with the politics of the firm, but also with the structure, systems, people and priorities of the firm" (Pettigrew, 1986, p. 7).

6. IMPLICATIONS FOR STRATEGIC ACTION IN THE DEPARTMENT OF EDUCATION, QUEENSLAND

While some aspects of the new culture can be planned, ultimately culture grows out of shared experience, not from propaganda or internal one-way marketing. However, cultural renewal can be managed and led. The source of cultural renewal is the change process itself. Out of the experience of those involved in change, the new values and beliefs emerge to express their sense of purpose and growing commitment to change. (Dunphy & Stace, 1990, p.188)

The discussion so far has identified a dilemma for senior management in the Department of Education. On the one hand, conscious management of cultural change is critical for the achievement of the desired organizational transformation; on the other hand, such a process is complex and fraught with difficulties.

The articulation of a new vision, involving a major paradigm shift, will result in a breakdown of operations unless a cultural management process is put into place. Without a mediating culture, a vicious circle of destructive conflict will result. The withdrawal of support for the prevailing culture will lead to a loss of meaning, confusion and disillusionment unless members of the Department are assisted in the process of reconciling the new tensions and dilemmas, developing new frames of reference and new metaphors, and identifying new exemplars.

Effective communication of a new vision is essential to assist the process of sense-making for the people affected by the changes. However, it is insufficient, of itself, for the achievement of transformational change and the attendant paradigm shift. Rarely are detailed strategies developed at the time that a vision is first formed and communicated. What the vision provides is "the impetus to discover, formulate and articulate the strategies" (Dunphy & Stace, 1990, p.158). In the same way, a new paradigm does not answer all the problems likely to be encountered by organizational members. What it does provide is a way of framing and researching problems that holds greater promise for solving current day problems than the problem solving approach of the old paradigm. (Kuhn, 1970).

What is needed to support the vision and paradigm shift is a cultural change process that provides:
. critical reflection on the "taken for granted" assumptions, values, and practices of the organization;

. a mechanism for mediating conflicts, power and tensions between the old and the new paradigm;

. a strong "pull" in the direction of the desired vision;

. a value set that is congruent with the Department's guiding principles;

. a link to the organization's history; and

. the opportunity for organizational learning through shared experiences that are critically informed.

The author argues that action research is such a process. The remainder of the paper provides support for this assertion by:

(1) explaining how action research is an appropriate cultural change process;

(2) illustrating this argument by demonstrating the effect of applying action research to curriculum development and teacher appraisal; and

(3) exploring the potential of gender equity action research as an exemplar for the new vision.

7. ACTION RESEARCH: A CULTURAL CHANGE PROCESS FOR ACHIEVING THE DEPARTMENT’S VISION

Action research has a long history in the field of education both in Australia and overseas (McKernan, 1987; Kemmis & McTaggart, 1988a; Noffke, 1990; Zuber-Skerritt, 1990). The First World Congress on Action Learning, Action Research and Process Management held at Griffith University, Brisbane in 1990 bore witness to the fact that there are many action researchers within the educational sector in Queensland. Applications of action research within education include school-based curriculum development, collaborative school development, program evaluation, gender equity, in-service teacher education, school-based teacher appraisal, school-level evaluation, pre-service training and professional development.

What then is action research? A definition of action research that is becoming increasingly accepted as the standard within the educational sector is that proposed by Kemmis & McTaggart (1988, p.5):
Action research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social and educational practices, as well as their understanding of these practices and the situations in which these practices are carried out. Groups of participants can be teachers, students, principals, parents and other community members – any group with a shared concern. The approach is only action research when it is collaborative, though it is important to realise that the action research of the group is achieved through the critically examined action of individual members.

Hult & Lennung (1980) provide an alternative definition that has its origins in the organizational development tradition:

Action research simultaneously assists in practical problem-solving and expands scientific knowledge, as well as enhances the competencies of the respective actors, being performed collaboratively in an immediate situation using data feedback in a cyclical process aiming at an increasing understanding of a given social situation, primarily applicable for change processes in social systems and undertaken within a mutually acceptable ethical framework.

Action research involves a cyclical process of critical reflection. An action research group undertakes to collaboratively:

(1) develop a plan of critically informed action to improve what is already happening,

(2) act to implement the plan,

(3) observe the effects of the critically informed action in the context in which it occurs, and

(4) reflect on these effects as a basis for further planning, subsequent critically informed action and so on, through a succession of cycles. (Kemmis & McTaggart, 1988, p.10)

The real contribution of action research is the iterative nature of the critical reflection which is undertaken in a systematic way in collaboration with others who are committed to personal and organizational improvement. This collaborative reflection is essential to avoid 'self-limiting reflection' which only serves to reinforce the tacit knowing and limited frame of reference of the individuals involved (Schon, 1983, p. 282).

The power of action research to generate cultural change derives from the fact that an action research group "can reasonably be expected to become self-critically self-conscious of its values and interests, and to explore
the nature and consequences of these values in an explicit and collaborative way" (Kemmis & Di Chiro, 1987, p.111). In this way, the action research group engages in what Argyris & Schon (1974) describe as 'double-loop learning'. Members of the action research group progressively confront the discrepancies between what they espouse (espoused theories) and their actions (theories-in-use) (Argyris, Putnam & McLain Smith, 1985).

Action research has the dual goals of action and research - action researchers attempt to solve real life problems in organizations and at the same time contribute to scientific knowledge. The immediacy of the action researcher's involvement in a problem situation is a defining characteristic of action research (Rapoport, 1970). Unlike traditional research, there is no delay between discovery of knowledge and its use in practice because knowledge is acquired, tested and used through direct involvement in organizational change (Clark, 1980). In contrast to the positivist paradigm, action research is based on an epistemology that views the individual as an "active seeker and negotiator of meaning" while "involved in an active construction of knowledge and experience" (Zuber-Skerritt, 1991b, p. 35).

Enhancement of the competence of all the actors in an action research project is an explicit goal of the process. Participants engaged in an action research project develop their professionalism through 'reflection-in-action' as they learn together (Schon, 1983, p.62). Bawden (1990, p.41) maintains that the outcomes of action research include:

(1) The practice of the practitioner researcher is improved.

(2) The understanding of the practice by the practitioner is improved.

(3) The situation in which the practice is practiced, is improved, and

(4) The understanding, by the practitioner, of the situation in which the practice was practiced is improved.

Action research aims at an increased understanding of the totality of a given situation. Unlike traditional research, it attempts to achieve a total picture based on an intimate knowledge of the interactions between all elements of the system. It does not attempt to isolate variables from their complex political contexts. Collaborative action research is able to achieve 'continuous cultural change' because it deals with cultural reality in all its complexity and attempts to arrive at 'tentative conclusions' that are continuously subjected to revisions through the recursive process (Oja & Pine, 1984, p.14). To achieve this end, action researchers draw data from many sources utilizing multiple methods to aid collaborative data collection, interpretation and analysis (Hult & Lennung, 1980).

The participative nature of action research ensures that representatives of
the wider system who have a stake in the project outcomes are able to influence the project. Involvement in action research entails the responsibility for "widening the collaborating group from those most directly involved to as many as possible of those affected by the practices concerned" (Kemmis & McTaggart, 1988, p.23). The capacity for cultural change flows from the outward ripples generated by this pebble-in-the-pond effect. While the parties to an action research project may have differing roles, they "share responsibility for the outcomes of the project" (Hult and Lennung, 1980).

The ethical framework surrounding action research includes the concept of public accountability. Zuber-Skerritt (1991a) suggests that this aspect is one of the defining characteristics of action research. Bawden (1990, p. 41) argues that the fifth outcome from any action-research project is the "critical response of a sceptical public" because the conclusions from such a project, however tentative, are "placed in the context of, and are subjected to the critique from, public knowledge". There is an implicit ethical requirement to make findings public by joint publication with a representative of the group or, at a minimum, by publication following vetting by the group.

Applications of action research focus on achieving improvements in social systems through planned change. Schein (1985) argues that real understanding of a system is only achieved by attempting to change it. The characteristics of action research - critical, reflective, collaborative, participative, iterative and accountable - render it an effective cultural change process.

Kemmis & Di Chiro (1987) maintain that the culture of a group is expressed in its language, activities and social relationships. These aspects become institutionalized over time in the form of discourse, practices and structure. They are highly interdependent and resistant to change. Unless these institutionalized forms are opened to challenge and change, there can be no educational reform.

Action research can achieve educational reform because it is a cultural change process:

Action research recognizes that we are social beings, and that we are members of groups...To change the culture of our groups (let alone of whole institutions or society more broadly), we must change ourselves, with others, through changing the substance, forms and patterns of language, activities and social relationships which characterize groups and interactions among their members. In action research, we aim to do this collectively and collaboratively, as a matter of conscious individual and group decision. (Kemmis & McTaggart, 1988, p.17).

Action research provides a way of reconciling competing perspectives and
resolving the ensuing tensions (Kemmis & Di Chiro, 1987). Through this collaborative learning process, participants become critically aware of their language, practices and relationships as well as the assumptions and values that underpin them. They are able to consciously change, observe the consequences of the changes and critically evaluate them with a view to modifying their plans. Thus they are able to create 'virtuous circles' that lead to educational improvement and professional development.

In the succeeding sections of this paper, the author illustrates how action research operationalizes the new paradigm and the governing values that underpin the proposed transformational change being undertaken by the Department of Education.

8. AN ACTION RESEARCH APPROACH TO CURRICULUM DEVELOPMENT

Of prime importance to the success of the project was the constant interaction between theory and practice. As the participants practiced a new teaching methodology in their classroom and reflected on that approach in the feedback sessions, they modified their beliefs about teaching. (Hannay, 1987, p.37, emphasis added)

McKernan (1987) contends that the action research approach to curriculum development has its roots in the early regionally-based experiments in teacher involvement in the United States in the period 1930-1945. In essence, this movement constituted a power shift in terms of "who was to make and break curriculum" (p.9).

Underlying these early attempts to promote the teacher as researcher was a rejection of the technical model of curriculum development which viewed the teacher as a conduit for the transmission of centrally derived curricula. McNiff (1990) suggests that underlying the rejected model is the perception of teachers as technicians and the reduction of teaching to a skills-based technology. The technical model is based on the assumption "that knowledge is something to be accessed, rather than part of a process of creation" (McNiff, 1990, p.52).

The action research approach recognizes that separating curriculum development from its implementation creates major problems. Curriculum implementation is recognized as a cultural and political change process. It rejects the idea that the simple act of curriculum transmission is sufficient to achieve curriculum implementation.

Hannay (1987) illustrates this point in relation to an Environmental Studies Curriculum developed in 1982 for a rural school district in Ontario, Canada. A review in 1985 of the take-up rate of this new curriculum in the target district, discovered a disturbing absence of the three major elements of the program, namely:
. use of inquiry learning;
. integration of science, social science and health within the
Environmental Studies Curriculum; and
. integration of a values education component.

A collaborative action research approach to this problem incorporated a
staff development program as well as strategies for creating self-
sustaining school change. The project titled Principal Plus Plan (PPP)
involved several phases over a three year period. As well as the Program
Supervisor and a faculty member, the project team included the principal
and a key teacher from each of the 6 schools of the district. An integral
component of the plan was the staff development model proposed by Joyce,
Hersh and McKibbin (1983) who advocate the use of multiple methods such as
coaching, modelling, theory, demonstration, practice and feedback. The
project was successful in increasing the participants' understanding and
practice of inquiry learning. Three other school districts adapted the
overall implementation model to their specific school contexts (Hannay,
1987).

McKernan (1987) argues that the move to school based curriculum development
entails a rejection of the obtuse and technical language of elitist
academic researchers and the associated perspective that creates a division
of labour between researchers and practitioners. The action research
approach attempts to employ the every-day language of teachers and to
engage them as researcher-practitioners in the curriculum process.
Stenhouse   (1975) supports this latter view that teachers have a key
inquiry and decision-making role in relation to curriculum matters. By
focusing on the "uncertain practical problems that are owned by
practitioners", action research can become a natural and effective approach
to curriculum development and implementation ( Hannay, 1987, p.41).

The following table (Table 2) illustrates the differences between the
centralized (technical) paradigm and the action research paradigm. It also
highlights how action research operationalizes the Department's guiding
principles.

**TABLE 2: CURRICULUM DEVELOPMENT: THE CENTRALIZED PARADIGM VERSUS THE ACTION
RESEARCH (SCHOOL FOCUSED) PARADIGM**

<table>
<thead>
<tr>
<th>CENTRALIZED PARADIGM</th>
<th>ACTION RESEARCH PARADIGM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE</td>
<td>Obtuse and technical</td>
</tr>
<tr>
<td>PRACTICES</td>
<td>Curriculum packages</td>
</tr>
<tr>
<td>Teacher as conduit</td>
<td>Collaborative inquiry</td>
</tr>
</tbody>
</table>
ROLES/ Division of labour Teachers as
RELATIONSHIPS between researcher researcher-
and teacher practitioners
Teachers as Teachers have a
technicians critical inquiry and
decision-making role

VALUES Control Professional
development
Technical efficiency Teaching effectiveness
and responsiveness

ASSUMPTIONS Teachers are consumers Teachers are producers
of curriculum knowledge of curriculum
knowledge (as well as consumers)

Knowledge is certain Knowledge is
and governed by laws provisional and
problematic

9. AN ACTION RESEARCH APPROACH TO TEACHER APPRAISAL
AND PROFESSIONAL DEVELOPMENT

There can be no empowerment (education) of pupils without the empowerment of teachers.
Elliott (1987, p.4)

The action research approach to teacher appraisal is described as "unambiguously concerned with the enhancement of teachers' professionalism" (Winter, 1987, p.14). This 'process model' of appraisal incorporates self-appraisal, short-cycle evaluation, collaborative peer review and joint reflection. It is often contrasted with the 'product model' of teacher appraisal (Day, 1987; Winter, 1987; Elliott, 1987). This latter approach seeks to achieve multiple purposes through reliance on objective performance standards, external surveillance and periodic review.

According to Winter (1987), the product model is based on bureaucratic premises, stresses the need for predetermined standards and seeks objective information for the purpose of control and accountability. The process model, in contrast, draws on the concept of professionalism, stresses the need for collaborative reflection-in-action and seeks to stimulate effective teacher learning through gaining insight into practice. The product model serves the bureaucratic purpose of "accountable decision making" while the process model serves the professional purpose of "development of practice".

Elliott (1987) suggests that underlying the two models are basic
differences in assumptions about "the relationship between knowledge and power in the educational process". The product model assumes that the educational process requires the use of coercive power to achieve standardization of teacher performance and pupil control. The resultant "systems of domination" effectively control the way teachers acquire practical knowledge (p.8). It is assumed that criteria for good teaching are context-free and capable of objective measurement. Competence and performance are viewed as equivalent while personal qualities and control over educational practice are devalued.

The process model, epitomized by the action research approach, assumes that educational power is achieved through giving control rather than taking control. Teachers and pupils are encouraged to develop personal competence through the mutual exploration and evaluation of learning environments. Criteria for good teaching are acknowledged as "context-bound" and are viewed as provisional. Teacher appraisal is seen as "a matter of personal as well as professional concern" (Elliott, 1987, p.9). Professional development of individual teachers is achieved through reflection on practice in collaboration with other teachers.

The operational differences resulting from the two models are illustrated by Day (1987) when he discusses the ways that classroom observation research is used in the context of teacher appraisal. He suggests that the research outcomes can be used for diametrically opposed purposes. On the one hand, superiors can use classroom observation processes and research to collect information for making judgments about a subordinate's performance based on comparative data (eg. frequency of eye contact). Alternatively, observation processes and research outcomes can be used collaboratively by the teachers themselves to evaluate their progress against their own predetermined professional development goals.

The potential of the action research process for professional development is highlighted by McNiff's (1990, p.52) observation:

In attempting to answer questions of the sort 'How can I improve this process of education here?' (Whitehead, 1989), teachers are accepting the fact that certain aspects of their practice are denying their educational values; and they are taking on the personal challenge of attempting to find ways in which they can improve and develop both themselves and the situations in which they live. (emphasis added)

The following table (Table 3) illustrates the fundamental differences underlying the two models.

TABLE 3: PROFESSIONAL DEVELOPMENT AND TEACHER APPRAISAL - THE "PRODUCT MODEL" VS THE "PROCESS MODEL"
PRODUCT MODEL   PROCESS MODEL

LANGUAGE         Technical language   Language of teachers

PRACTICES        External surveillance Peer review
                 Objective standards   Self-appraisal
                 Periodic review      Short cycle evaluation

RELATIONSHIPS    Superior/subordinate Collaborative planning and review
                 Mutual exploration with students

VALUES           Hierarchical Public accountability
                 Control Professionalism
                 Standardization Development of practice

ASSUMPTIONS      Teachers need knowledge Teachers need life-long acquisition learning
                 Educational power requires "taking control" Educational power requires "giving control"
                 Criteria for good teaching are Criteria for good teaching are
                 context free context bound

10. GENDER EQUITY ACTION RESEARCH: AN EXEMPLAR FOR THE NEW VISION?

We all like to think we're good, we don't make mistakes, we're not sexist or racist, we're not impatient with the kids, never give them a hard time for no good reason - but a programme like this does make you think.
(A teacher participating in a gender equity action research project - cited in Chisholm & Holland, 1986)

Gender equity is emerging as a growing application area at the pre-school, primary and secondary levels. The systemic nature of the issue and its cultural dimension suggest that action research is an appropriate approach
for achieving sustained change in the gender equity area.

Kemmis & McTaggart (1988) identify three registers that are affected by action research - language, activities and relationships. Achievement of gender equity requires changes in each of these elements and their institutionalized equivalents - discourse, practices and social organization.

Action research projects in the gender equity area are typically developed by establishing a cluster of volunteer schools within a region (Johnston, 1991; Chisholm & Holland, 1986). Planning and review meetings between the participating schools are organized by a coordinator or coordinating team. Networking between the schools serves to extend the support base for the researcher-teachers within the schools (Johnston, 1991).

While the between-schools collaboration is important, the more essential element is the within-school collaboration, cooperation and mutual support (Henry & Henry, 1988). Within a school, small groups of teachers form action research teams which act as the primary change agents. Hierarchical support within the school is made visible by the inclusion of a senior administrator (principal/deputy principal) on the research team (Johnston, 1991). Given the male domination that can occur at this level in primary and secondary education, such inclusion is vital if the real power issues involved in gender equity are to be adequately addressed.

The focal issue for schools can vary between schools within a cluster. Issues addressed include gender-inclusive curriculum, playground participation, sexual harassment, subject/occupational choice, teacher practices (Department of Education, Queensland, 1991). Methodologies used include surveys, interaction analysis, observation, interviews. These techniques are integrated in teachers' normal duties to lessen the load on staff (Department of Education, Queensland, 1991).

The cyclical nature of the action research projects in the gender equity area can be impacted by the withdrawal of centralized funding after the first year (Johnston, 1991). As such projects are heavily reliant on specialized funding, they become vulnerable to changing perceptions of priorities at senior administrative levels. It requires considerable personal commitment on the part of the school administration and teachers involved, to sustain the improvement in gender equity beyond the first year of centralized funding. The sustainability of the change and development is influenced by the extent of collaboration and participation achieved through the project and the level of commitment of the principal/deputy principal. This aspect reinforces the need for their active participation in the research project from the outset. Where conscious attempts are made to broaden participation, the level of sustainability is increased.

Widening the involvement of teachers and students within the school, as well as parents, their representative committees and union associations, makes it more difficult for projects to be "wound back". Clark (1972)
suggests that broadening the level of sponsorship is a key factor for achieving project sanction.

Projects in the gender equity area focus on teachers as collaborative researchers. However, in some school-based projects, one or two students are involved as representatives of the student population. Rarely are gender equity projects undertaken with a class of students as coresearchers facilitated by a teacher. This is in stark contrast to the adoption of this approach in environmental education. The potential of student involvement, particularly at the secondary level, is relatively unexplored. Clearly the risk level is higher with the prospect of public student critique of teacher practice and loss of control over the research agenda/process by the teacher. The resultant collaborative approach to teaching/research would also present a major challenge to established curriculum cultures although it would be more in line with the "hidden curriculum" employed by some teachers. Emergence of human relations teaching presents the opportunity and climate for exploration of higher levels of student collaboration in gender equity action research.

Gender equity action research projects illustrate the maxim "think globally, act locally". Teachers are attempting to counter historical conditioning, other socialization sources (eg. parents) and media/marketing biases. An example of the grass roots approach of these projects is the attempt in one project to increase the participation rates of boys and girls in home economics. The teacher/researchers in this project had to counter negative perceptions of the subject which precluded the students from gaining managerial skills and experience relevant to a career in the hospitality industry (Department of Education, Queensland, 1991).

Gender equity action research projects achieve outcomes in a number of areas. Invariably the teacher/researcher's own understanding of the school situation in relation to gender equity increases (Johnston, 1991). The collection and presentation of school-based data gives meaning and immediacy to statistics collated on a more global basis. Insights gained into the bias of their own practice is often a challenge to a teacher's self-concept and can precipitate a crisis for the teacher (Chisholm & Holland, 1986).

Gender equity action research projects highlight the complexity of strategic change and the potential for synergy. They demonstrate both the potential for cultural change and the vulnerability of this change if it is not adequately resourced and supported over the longer term. Because they operationalize the strategic vision and guiding principles of the Department, gender equity action research projects provide an excellent exemplar for the new paradigm.

11. CONCLUSION
To the extent that an institution seeks to accommodate to the reflection-in-action of its professional members, it must meet several extraordinary conditions. In contrast to the normal bureaucratic emphasis on uniform procedures, objective measures of performance, and center/periphery systems of control, a reflective institution must place a high priority on flexible procedures, differentiated responses, qualitative appreciation of complex processes, and decentralized responsibility for judgment and action. In contrast to the normal bureaucratic emphasis on technical rationality, a reflective institution must make a place for attention to conflicting values and purposes. But these extraordinary conditions are also necessary for significant organizational learning.

(Schon, 1983, p.337)

The foregoing sections of this paper reinforce the view that action research provides the Education Department with a cultural change process that will enable the achievement of the proposed transformational change. The strategic importance of action research for the Department of Education is further enhanced by the congruence between the values of action research and the values promoted by the Department as the governing principles for educational improvement in the State (refer section 3).

The importance of action research as an appropriate change process has been recognized by the Department:

A strong link between planning, implementation, monitoring and the review phase, leading to constructive advice to those responsible for adjusting the department's plans is essential if the system is to be responsive and to have the capacity to maintain its focus on schools and the needs of students - see figure 22 on page 82 [depicting the action research cycle].

A very strong emphasis on the improvement of systems and structures must be inherent in the organization's culture, and this must be supported in the organization's structure.

(Focus on Schools, p.81)

The task ahead for the Department is to build on its current support for action research and move to institutionalize action research as a way of life in the Department. In practice, this means according action research a strategic priority and undertaking actions such as:

(1) establishing the GEAR projects as EXEMPLARS by increasing the funding to both existing and new projects;

(2) moving to establish an action research ethos at the pre-service level;

(3) developing training programs for principals to inculcate an understanding of, and willingness, to participate in action research projects in their schools;

(4) incorporating action research into in-service training for teachers;
(5) creating innovative reward systems to recognize achievements of action researchers within the Department; and

(6) investigating the possibility of building in action research qualifications to career progression (eg. Graduate Diploma, Masters or PhD by Action Research).

What was interesting at the the First World Congress on Action Learning, Action Research and Process Management (1990) was the evaluation comments by some of the teachers who were present. There was real disappointment expressed that teachers were not better represented in the delegate group. When asked why this could be the case, the participants suggested that teachers perceived that action research was not seen as legitimate by the department. If the desired transformational change is to occur, this perception will have to be changed through visible and persistent support at senior levels.

Given the department's desired paradigm shift, it can no longer afford to have action research seen as marginal or peripheral; it must be seen as a core process. Action research is no longer an optional extra; it is now a cultural imperative for the department.

REFERENCES

Argyris, C. (1967), Some Causes of Organizational Ineffectiveness within the Department of State, Department of State: Washington.


Bawden, R. (1990), Towards action researching systems, in O. Zuber-Skerritt (ed.), Action Research for Change and Development, Centre for the Advancement of Learning and Teaching, Griffith University: Brisbane, Australia.


Department of Education, Qld. (1990), Focus on Schools: The future organization of educational services for students.


Department of Education, Qld. (1991), GEAR Case Studies: Gender Equity Action Research Project, Gender Equity Section.


Lundberg, C. (1985), On the feasibility of cultural interventions in
organizations, in P. J. Frost et al, Organizational Culture, Sage: Beverley Hills.


Zuber-Skerrit, O. (Ed) (1990), Action Research for Change and Development, Centre for the Advancement of Learning and teaching, Griffith University: Brisbane, Australia.

Zuber-Skerrit, O. (1991a), Action Research in Higher Education: Examples and Reflections, Centre for the Advancement of Learning and Teaching, Griffith University: Brisbane, Australia.