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Action research as a form of staff development in higher education

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Abstract. Action research involves practitioners in attempting to improve their own teaching through cycles of planning, acting, observing and reflecting. Educational practices are regarded as social practices to be changed through collaborative action. Action research has become quite well accepted in schools and teacher education but has not been widely promoted in higher education. This article discusses reasons why it could be effective as a method of staff development for improving teaching and learning at the tertiary level. A brief description is given of a number of action research projects which were supported by the authors, acting as critical friends. Critical reflections on these activities lead to discussion of: the difficulties of promoting projects without imposing directions; the need for group activity; the extent to which participants can influence others; and the viability of supporting action research projects for staff of educational development units.

Action research

Lewin (1946) is believed to have been the first to use the phrase *action research* to describe a process of social research leading to social change, characterised by active participation and democratic decision making. Lewin's (1952) early work compared the effectiveness of lectures, individualised instruction and group decision making in changing dietary habits and attitudes to foodstuffs such as offal, cod liver oil and milk. The findings on ways of changing attitudes and bringing about change led to the adoption of action research in the educational field (e.g., Corey 1949), but interest was not sustained. Revival of interest and wider adoption in the educational area is largely attributed to the work of Stenhouse (1975), who advanced the idea of teachers as researchers.

Lewin (1952, pp. 462–463) uses a graphic analogy to describe action research.

Planning usually starts with something like a general idea. For one reason or another it seems desirable to reach a certain objective. Exactly how to circumscribe this objective and how to reach it is frequently not too clear. The first step, then, is to examine the idea carefully in the light of the means available. Frequently more fact-finding about the situation is required. If this first period of planning is successful, two items emerge: an 'over-all plan' of how to reach the objective and a decision in regard to the first step of action. Usually this planning has also somewhat modified the original idea. The next period is devoted to executing the first step of the over-all plan. In highly developed fields of social management or the execution of a war, this second step is followed by certain fact-findings. For example, in the bombing of Germany a certain factory may have been chosen as the first target after careful consideration of various priorities and of the best means and ways of dealing with this target. The attack is pressed home and immediately a reconnaissance plane follows with the one objective of determining as accurately and objectively as possible the new situation. This reconnaissance or fact-finding has four functions: it should evaluate the action by showing whether what has been achieved is above or below expectation; it should serve as a basis for correctly planning the next step; it should serve as a basis for modifying the 'over-all plan'; and finally, it gives the planners a chance to learn; that is, to gather new

general insights, for instance, regarding the strength and weakness of certain weapons or techniques of action. The next step again is composed of a circle of planning, executing, and reconnaissance or fact-finding for the purpose of evaluating the results of the second step, for preparing the rational basis for planning the third step, and for perhaps modifying again the over-all plan.

The same four elements, identified by Lewin as planning, executing, reconnaissance and evaluating for a second step (or bombing raid) are included in a definition of educational action research adopted by a National Invitational Seminar on Action Research (quoted by Carr and Kemmis, 1986, pp. 164–165), though the terminology is somewhat different.

Educational action research is a term used to describe a family of activities in curriculum development, professional development, school improvement programs, and systems planning and policy development. These activities have in common the identification of strategies, of planned action which are *implemented*, and then systematically submitted to *observation, reflection and change*. Participants in the action being considered are integrally involved in all of these activities.

Carr and Kemmis (1986, pp. 165–166) assert that:

It can be argued that three conditions are individually necessary and jointly sufficient for action research to be said to exist: firstly, a project takes as its subject-matter a social practice, regarding it as a form of strategic action susceptible of improvement; secondly, the project proceeds through a spiral of cycles of planning, acting, observing and reflecting, with each of these activities being systematically and self-critically implemented and interrelated; thirdly, the project involves those responsible for the practice in each of the moments of the activity, widening participation in the project gradually to include others affected by the practice, and maintaining collaborative control of the process.

Carr and Kemmis (1986) provide a theoretical grounding for action research based upon the concept of critical social science developed by Habermas (1972, 1974, 1979). Attempting to summarise Carr and Kemmis's book or the even more extensive work of Habermas within the confines of the introduction to an article would do scant justice to such profound writing. We will therefore restrict ourselves to noting the elements of theory which justify the three conditions for action research contained in the above quotation.

Habermas believes that individuals construct knowledge around a framework of three *knowledge-constitutive interests*; technical, practical and emancipatory. Habermas maintains that the methods of inquiry and the framework of interpretation of the first two do not provide a satisfactory basis for social science. Carr and Kemmis argue that educational research and curriculum development need to be regarded as a social science. The emancipatory knowledge-constitutive interest is associated with critical social science which is concerned with the medium of power. The aims of critical social science are to reveal, through self-reflection, an awareness of how goals and purposes can become frustrated or distorted and to suggest how the impediments might be removed. The final condition for classification is derived from Habermas's (1970) theory of communicative competence which was his conceptual framework for determining whether theories derived from critical social science could be established as superior to those they

superseded. Habermas believed that it was only through discourse, which did not suffer from non-democratic constraints, that a rational consensus could be reached. A consensus reached through such uninhibited symmetrical dialogue was to be equated to a conception of truth.

The work of Lewin has had a marked influence upon theory and practice in a number of fields. In the educational arena, Kolb (1984) acknowledges Lewin's work as a precursor to the development of his model of experiential learning. The experiential learning cycle of concrete experience, reflective observation, abstract conceptualisation and active experimentation, usually associated with Kolb's name, is clearly a development from Lewin's work.

Action research in higher education?

Returning to the definition of educational action research, quoted above, it is instructive to note the specific inclusion of 'school improvement programs'. In the educational arena, action research seems to have become synonymous with the school sector (see e.g., *The Action Research Reader*, Kemmis and McTaggart 1987). Consideration of action research in the higher education sector appears to have been concerned largely with the professional development of teachers, by inclusion in curricula of education degrees or by the participation of education lecturers in school-based projects. An ERIC search linking 'action research' with 'higher education' did yield 74 entries, but these were almost all concerned with school teacher training or school projects. One project in higher education which is worthy of note is that by Gibbs (1989), who is directing a CNAA funded project incorporating a number of action research projects which aim to improve the quality of student learning.

This article is concerned specifically with action research for the purpose of improving the quality of student learning through better teaching as a result of staff development in higher education. By this we mean its use as an activity promoted by educational development units (or similar bodies with numerous other titles) in universities or colleges to foster change in curricula, teaching strategies, institutional practices and the attitudes of staff.

We did find some evidence of action research as a staff development strategy in higher education. Moses (1985) collated responses, from seventeen directors of Australian educational development units, to the question: 'What three approaches to improvement of teaching have worked best in your institution?' 'Collaborative research and publication' was mentioned twice, though was categorised as targeted towards individual staff members so may not satisfy all the criteria to be classified as action research.

Academics also conduct research into their own teaching, on their own initiative, without encouragement or support from an educational development unit. When this type of research is published it usually appears in educational journals specific to the discipline of the researcher (e.g., *Journal of Chemical Education* or *Journal of Education for Business*). Such articles rarely make reference to action research and its

associated literature, but many do seem to fit, loosely at least, within Carr and Kemmis's (1986) three conditions for classification as action research (e.g., Cawley 1989; Jackson and Prosser 1989). Others which do not have clearly involved the researchers in valuable reflection upon their own teaching.

A case for action research in higher education

It is surprising that there has been such scant reference to action research as a staff development strategy for higher education, while at the school level there is an abundance of literature concerned with action research. There appear to us to be a number of reasons why it should attract adherents in higher education, even more than at the school level.

Research is not widely regarded as required, or even a normal, activity for school teachers. Stenhouse (1975, p. 159) believes that the teachers' social climate generally offers little support to those who closely examine their own professional practice by assuming the role of researcher. Yet, in higher education, research is a valued role and is often required. Lecturers are therefore more likely than school teachers to possess the skills, inclination and time for research.

The promotion system and/or staff perceptions of the reward structure in higher education tends to favour research rather than teaching (e.g., Boud and de Rome 1983; Genn 1982; Soliman *et al.*, 1983). Even where institutional statements and promotion criteria state the value of teaching, both management and promotion committees, in practice and in the perception of staff, can still look little beyond the number of publications. Clark (1987, p. 99) notes that, 'Trustees and administrators in one sector after another praise teaching and reward research.' It is therefore of no surprise that the directors of educational development units, in the Moses (1985) survey, cited lack of sufficient institutional reward for teaching as the greatest constraint on their activities. If promotion depends upon research, then time devoted to staff development activities to improve teaching diminishes promotion prospects by decreasing available research time. Reluctance of lecturers to undertake staff development to enhance the quality of their teaching may be reduced if the time devoted to improving teaching is itself in the form of a research activity which can lead to publications.

Another reason in favour of action research in higher education is the degree of control of the curriculum. Stenhouse (1975, p. 123) notes that development through action research is possible if curriculum development decisions rest with the individual school but not if they are made centrally. Universities have traditionally enjoyed high levels of autonomy over curriculum development so curriculum decisions are made at department or even individual lecturer level. Colleges and polytechnic courses are more likely to require accreditation by an outside authority, but the development process still remains within the department.

Action research as a staff development activity

There is an element of dichotomy, almost of contradiction, between the characteristics of action research and those of staff development. Action research is based upon collaboration, participation, democratic decision making and emancipation through critical self-reflection. Staff development, however, implies some element, at least, of external involvement and/or direction setting.

Stenhouse (1975, p. 159) discusses the relationship between the researcher and teacher in school-based action research programmes. He concludes that the most promising way of overcoming the social and psychological barriers to teacher participation is through mutually supportive cooperative research between teachers and full-time researchers. Carr and Kemmis (1986, p. 161) feel that the relationship between researcher and teacher is important. The researcher should become a 'critical friend' helping the insider to make wise judgements in the process of educational transformation. Stenhouse (1975, p. 142) believes that proposals should be presented as provisional specifications to be tested rather than unqualified recommendations. This orientation or approach seems highly appropriate for higher education staff who are often sceptical of didactic pronouncements.

Initiating action research projects

Carr and Kemmis (1986, p. 200) point out that 'One of the problems in educational action research is that people involved in education do not 'naturally' form action research groups'. In higher education this is perhaps less of a universal truth than in the school sector. Lecturers do publish papers about innovations and improvements to their own teaching independently of assistance or prompting by staff-developers. Some of this work would satisfy the conditions for classification as action research. Nevertheless our own experience suggests that, within our own institution at least, there are less independent initiators than latent action researchers who require the assistance of facilitators.

However, facilitators are then faced with a delicate balance between pushing lecturers towards projects which do not truly correspond to their concerns and interests, and accepting that no change takes place because lecturers do not, of their own volition, raise concerns or commence action research projects. To avoid the genesis of technical action research, in which the investigation is of issues suggested by the facilitators, we have insisted that projects we support are derived from the concerns and suggested changes of participants. We found this approach resulted in a gestation period before projects commenced, as it required a degree of initial attitude change. Staff within the institution had become used to a more didactic or prescriptive style of staff development, so expected us to initiate interventions.

Three possible strategies for initiating projects without dictating are:

1. Projects could arise as a result of other development activities by educational development unit staff and/or their informal contacts with academics.

2. The process of curriculum development and accreditation could result in projects which take as their theme the implementation of some aspect of the new or revised curriculum.
3. A workshop could advertise the concept of action research in education, with the expectation that participants start an action research project following the workshop.

We have explored each of these means of initiating projects to some extent and examples of each are included in the case studies in the following section. At our own institution, action research as a medium for staff development and curriculum change, has grown out of a collaborative research project which aimed to investigate the extent to which students possessed and used self-managed learning skills (Gow and Kember 1990; Kember and Gow 1990, 1991). This activity, though, could be equated to normal on-going work of educational development units. Contacts with staff revealed some who took a particular interest in an innovation and were prepared to implement the innovation through an action research project.

Initiation through course development processes is the strategy we have explored least because of the origins of action research from a research project. One example though is given in the case studies. Staff of educational development units who routinely give advice on course development could find projects growing out of this activity. Discussion of the format of the course can reveal concerns which go beyond the accreditation to the course to the way in which it is to be implemented, especially if the lecturers need to employ methods of teaching they have not experienced before, or have to run a course for a type of student they do not normally deal with. Once curriculum documents are approved few tertiary courses go through cycles involving observations, reflection and modification by the group involved in the teaching. Rather the individual lecturers are left to interpret the curriculum as they see fit, often in ways which differ considerably from the curriculum document (Kember, 1991). Concerns over implementation can be turned into action research projects, though, if the staff developers are prepared to offer support during the implementation of the course. Curriculum development therefore becomes an on-going activity involving full participation by those teaching the course.

The third initiation strategy was to advertise a workshop on small scale action research projects in education, in the same way that lecturers are invited to participate in other staff development workshops in the institution. The advertising for the workshop suggested an expectation that participants would become involved in an action research project following the workshop. The expectation of some initial inquirers, however, seemed conditioned by previous workshops which normally expect little commitment beyond the workshop session. There was a significant fall-off between responding to the advertisement and actually becoming involved in a project. As well as being offered to those responding to the advertisement, the workshop was put on for three departments which had expressed an interest as a result of other activities.

A booklet on action research for small scale educational projects was developed to accompany the workshop. The booklet and workshop dealt briefly with the

nature of action research and covered the phases of planning, action, observation and reflection. The cyclical nature of action research was stressed. An overview was given of a number of techniques for making observations and gathering data. A lecturer, who was already involved in action research, described her project. The workshops were deliberately kept short but provided ample opportunity for discussion and raising questions. They were not meant to be comprehensive courses in educational research; rather brief introductions to the concept of action research and invitations to participate in a supported project.

Following the workshops, it was possible to form a number of groups, either by discipline or by a similar concern. On-going support was offered to the groups by the authors acting as critical friends. The full-time research fellow for the overall project provided assistance to the groups by keeping records, performing literature searches, acting as a classroom observer, conducting interviews, and offering advice and support. Regular meetings were held by the groups to discuss and reflect upon progress. A diary or journal was maintained for each project, in which was recorded important points to emerge from the meetings, action taken, and observations of the participants. White (1988) believes that all participants in action research projects should keep journals, the contents of which are shared with other group members to establish dialogue and promote reflection.

Case studies

In this section some more established projects are briefly described to illustrate the nature of the supported activities. The participants come from a range of departments and the projects are quite varied in nature.

The longest running project, which has been in progress for over three years, arose out of a concern of the clinical placement supervisor for radiography students. She felt that the clinical training concentrated on developing psychomotor skills but did not encourage students to make use of their theoretical skills nor help in the development of problem solving ability in the professional context. The main action taken in this project has been to ask students to make an evaluation of each clinical placement and to discuss the evaluations in small groups. One cohort of students has been through three cycles of clinical placement blocks followed by group discussion sessions. Refinements to the evaluation sessions have been made following critical reflections in the earlier cycles. The number of sessions attended by each student has been cut from four to two and the group size has been reduced from fourteen to eight. In the last cycle the students in each group were mixed rather than grouped by placement. The effects of the changes to the course on student learning have been monitored by a variety of methods including the Study Process Questionnaire (Biggs 1987) and evaluation of student responses to assessment items which use a case study format. The results from the initial cycles have influenced the development of a new course which the department is developing.

A group of lecturers in the Building Services Engineering Department are investigating the format of the sandwich year of their degree course. Students

currently spend the third year of a four year programme working in industry. In the initial observation phase, data are being gathered from employers, lecturers and past and present students about the effectiveness of the current arrangements for the period of industrial attachment. The group hope to first determine whether a period of industrial attachment is a worthwhile learning experience, and then to explore how it might be improved by modifications to the existing arrangements.

A project in the Hospitality Management Department is introducing student active learning into a management subject which was previously largely taught by lectures. A variety of games, simulations, case studies and other student-centred activities have been tried out. Students have been asked to compare the various activities by means of a questionnaire and interviews. The interviews were also used to explore student reactions to more active forms of learning in comparison to lecture-based teaching. In the second cycle the course faces increased enrolment so the project hopes to examine ways of continuing to use the more successful learning activities in the face of increased class size.

Another project is also exploring an alternative to lectures: the use of self-study booklets. For several parts of a subject in Rehabilitation Sciences students are being asked to read and complete activities in prepared self-study booklets rather than attending lectures. The teaching effectiveness of the booklets are being monitored through the periodic tests which are a component of the subject. Interviews are used to examine the students' attitudes to the alternative teaching and learning format and to explore how the students' learning approaches are influenced. As the periods when self-study booklets are used are interspersed through the course, it is possible to treat each as an action research cycle and modify the format of the booklets and the arrangement for their use in the light of previous observations. It is also hoped that any developments in students' attitudes and approaches to the method of study will become apparent.

A project in Optometry arose out of the need for accreditation of a course for part-time students which will need to employ more student-centred adult learning strategies. The members of Optometry hope to demonstrate, through involvement in the action research project, that they are capable of developing, implementing and evaluating student-centred learning methods. The intention is to start a number of sub-projects to introduce various aspects of adult learning strategies into existing courses. The most advanced sub-project is evaluating the effectiveness of student projects in which groups of students present part of a subject. As the students have been adventurous in their choice of presentation methods it is also possible to compare the effectiveness of presentation methods such as videoed role-play, a panel of former graduates, a management game, a court-room simulation and a survey of students.

A project in the design school is examining both staff and student conceptions of drawing, an activity and concept which is fundamental to the design course. Despite the central nature of drawing, staff seem to have found it difficult to agree on exactly what it entails. Informal observation suggests that students' conception of drawing develops during the course. Lecturers' views of drawing are being gathered by interview while student conceptions will be examined by observation of drawing

exercises followed by focussed interviews. It could be argued that this project might be better classified as interpretive rather than action research, however, it is being supported because a clearer definition of alternative conceptions of drawing seems likely to be a precursor to improving teaching throughout the course.

In deciding whether to support potential projects, we felt that the enthusiasm of the participants and potential benefits to teaching and learning were of more importance than purist interpretation of the nature of action research. We were willing to accept projects from any discipline and tried to accommodate any type of teaching initiative.

Critical reflections

Collectively, the individual action research projects are an experiment at another level into the effectiveness of action research as a staff development strategy in higher education. Critical reflection therefore takes place on a number of different levels. Within the first case study, six levels can be detected:

- Students reflect with fellow students on their experiences in their clinical placement.
- Students reflect with their clinical supervisor (lecturer) as to how effectively they utilised their theoretical training in the clinical setting.
- The lecturer reflects with fellow department members and the researchers on the effects of the revised clinical placement program.
- The lecturer reflects with the researchers on the development of her research ability.
- The researchers and lecturer reflect on the effectiveness of action research as a strategy for staff development and curriculum change.
- We are trying to initiate another level of reflection between ourselves and the institutional management to establish support for action research projects as an on-going activity within the institution.

In this section we critically reflect at the fifth level; upon a number of aspects which might impinge upon the implementation of action research as a staff development activity.

Level of research expertise

The initial action research workshop followed discussions at various departmental conferences which discussed both student learning issues and departmental research policy and its implementation. A common viewpoint which emerged from this discussion was:

Teaching is my first priority.

I lack confidence in doing research.

Small scale action research into their own teaching seemed promising as a staff development policy for those with these concerns. It was also consistent with two important departmental goals of promoting research and improving the quality of student learning, and moreover was supported by the head of the department.

The lecturers participating in these action research projects we are supporting have usually had fairly limited research experience. Our role of 'critical friend' has therefore been multi-faceted. It involves supporting, advising upon and promoting curriculum change, participating in a research project, and developing the participants' research skills. The last of these facets proved to be an incentive for some participants to become involved; one (and possibly more eventually) enrolling for higher degrees based on the projects. A common experience has been the need to widen participants' horizons with respect to educational research paradigms. During initial discussions, potential projects were often formulated in a rigid experiment and control format, simply because the potential participants were unaware of other possibilities.

We have not yet had the opportunity of working with an academic who might be classified as an experienced researcher with extensive publications. In such an event we would modify somewhat the orientation of the critical friend role, but would still envisage being able to provide worthwhile support. The role of critical colleague assisting reflections on the effects of the action phase would remain. The research support facet would shift from a role of building confidence and developing research skills to one of advising on the transfer and adaption of techniques and conventions from the academic's discipline to the educational field.

A group activity?

Academic research is often an individual and even an isolated or self-centred activity, yet action research is envisaged as a group activity. Stenhouse (1975, p. 159) talks of 'mutually supportive co-operative research' while Carr and Kemmis (1986, p. 200) recognise the need for solitary reflection, but see it as a precursor to public discussion. They justify their position by quoting Habermas's (1974) warning that solitary self-reflection requires the subject to split one part of the self from the other in such a way that it can still render aid to itself. McTaggart and Garbutcheon-Singh (1987) are quite adamant that activities undertaken by an individual cannot be classified as action research.

It is worthwhile introducing two concepts in order to discuss this point further. Firstly Carr and Kemmis (1986, pp. 202–205) introduce a classification system for action research, based upon Habermas's (1972) knowledge-constitutive interests. *Technical* action research investigates issues raised by external researchers which are not the concerns of the practitioners. There may therefore be little change to the

action or beliefs of practitioners, especially if publication in the research literature was the motivation for the study. *Practical* action research occurs when facilitators collaborate with individuals or groups of practitioners to investigate a problem of mutual interest but there is no development of the practitioners into a self-reflective community. Practical action research can be a stepping stone towards *emancipatory* action research, in which the practitioner group takes responsibility for the development of practice through democratic decision-making. It implies that the group becomes concerned with the social or power sphere which influences the actions it desires to take.

The final point leads to the second relevant concept, which is the sphere of control or influence over the course or target for the action. At school level, curriculum change can be controlled by national bodies. In universities, however, the sphere of control is rarely larger than a department and smaller course teams or committees, and even individual lecturers, can have quite discrete control over innovations and changes to curricula.

Any staff development initiative needs to be mindful of the sphere of control. There should also be an awareness of any major divergences between the formal and informal organisations. Workshops open to individuals from around an institution can attract groups of enthusiastic, like-minded individuals, but the end result can be disappointing if the individual is unable to influence change within his or her department. Working with whole departments or course teams is therefore more likely to produce real change, but it is, of course, much more difficult to persuade a whole department to participate and then to concur on a common agenda for action.

Action research does not solve this dilemma, but does at least recognise curriculum development as an arena for social and political action. Holtz (1989) in fact, believes that the most important aspect which distinguishes the critical paradigm from positivist or illuminative perspectives is that 'we are here to change the world, not to study it' (Holtz 1989, p. 193). If, as is often the case, it is not possible to start with a group which equates to a sphere of influence, then the smaller unit is at least participating in a movement which incorporates steps or strategies for implementation and warns participants to anticipate potential constraints to the change process. Action research projects initiated with an individual lecturer are likely to begin as practical action research. The lecturer will use the facilitators as sounding boards for novel ideas. If the project is to be really successful, the initiator may have to persuade a wider sector of the sphere of influence to participate, in which case the action research acquires more of an emancipatory character. Two of the case studies described above started with one lecturer each and, because of the enthusiasm of those individuals, has extended to wider circles within their departments.

The status of the facilitator

The approach or status of the facilitator will, clearly, influence the classification of a

project as technical, practical or emancipatory action research. Once a project has started, the facilitator needs to maximise support while minimising manipulation. Habermas (1974) points to the paradox between the intervenor, who acquires a superior knowledge status, and the concern of action research with enlightenment through democratic critical-reflection. As mentioned before, the adoption of a *critical friend* orientation seems to help in avoiding, or at least minimising the effects, of, this snare.

Effectiveness

The effectiveness of staff development initiatives can be judged by several criteria, including number involved, extent of change to teaching methods, change in institutional policy, the extent of any snowballing effect and the extent of improvement in the quality of student learning. Our, so far subjective, impression is that action research projects have great potential. We have observed high levels of enthusiasm and commitment which have led to positive change. Furthermore, the participative nature of the projects suggests that there will be an on-going effect in terms of both the specific action generated by the project and in the attitude of the participants.

The ratio between lecturers and staff developers is usually high and often very high. Staff developers are therefore forced to hope that initiatives they take will have some flow-on benefit beyond the initial circle of contact. The characteristics of action research suggest two reasons why this hope may be more fruitful than for some other forms of staff development. Firstly, the action research literature alerts participants to the advantages of widening the involved group and warns of potential constraints by outsiders. There is, therefore, a rationale for participants to broaden involvement, which does not exist in most other common forms of staff development. Secondly, projects lead towards publication and dissemination of results which could persuade others either to adopt the tested innovation or to become involved in another project. The lecturer leading the longest running project is convinced that she was able to have a marked effect on the curriculum of a new course being developed by her department. The experiences of her project influenced her own thinking on the nature of the new course, and she was able to use evidence from the project to convince her colleagues to adopt some of these ideas. She has also been influential in persuading others to start action research projects.

We would certainly not suggest action research be adopted at the expense of all other staff development activities as we have found that it does not have universal appeal. Some who did not wish to become involved expressed either a dislike or a lack of interest in research. Others were reluctant to make the necessary time commitment. No doubt some lecturers in both categories do participate in other staff development activities, probably preferring more passive forms which do not involve in on-going commitments. Many probably avoid any involvement at all.

Effectiveness should be assessed not only in terms of benefits but also costs. So far the charge to the institution, for the projects described in this paper, has been small.

The full-time research fellow is paid by an external research grant. Neither the researchers nor the lecturers involved are specifically allocated time to the projects by their departments. Clearly there are costs in terms of alternative activities foregone, though the level of commitment generated by the projects has undoubtedly led to higher workloads by some participants. At this point it is worth reiterating that the promotion of action research projects within our institution has been seen as trial, or an action research project on a different level. If the support for action research projects were to be instituted as a major on-going activity of an educational development unit, it would require significant resources because a commitment has to be made for the lifetime of projects which are started.

In the long run the effectiveness of action research is best judged by its effect on student learning since the goal of the exercise is to improve the quality of student learning, by modifying teaching practices, through action research as a staff development activity. The evaluation of each of the individual projects therefore monitors the effects on student learning by means such as the Study Process Questionnaire (Biggs 1987), student interviews and specifically designed questionnaires. Each project must therefore go through a number of cycles and be evaluated before any more general conclusions about action research can be obtained.

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