Action research
by Ian Selwood and Peter Twining [*]

Introduction

> "Action research is a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time. The understanding allows more informed change and at the same time is informed by that change."
>
> (Dick 2002)

This paper provides a brief overview of action research, and addresses the following areas:

The nature of action research

Action research is often associated and confused with other activities - classroom-based, school-based and case-study research; practitioner enquiry; reflective practice; evaluation; professional development; institutional improvement or institutional change. Action research in educational institutions may involve all, or some of, these activities. Action research:

- can be based in the classroom, but may be based in the wider context of an educational establishment;
- may involve reporting the findings as a case study, or carrying out a case study as part of a situational analysis;
- is generally carried out by practitioners – teachers, lecturers, teaching assistants, leaders;
- always involves reflection and evaluation;
- can be a valuable form of professional development;
- can lead to institutional improvement and institutional change.

However, there are important features of action research that distinguishes it from these other activities. Action research should be informed by the wider body of knowledge, for example within the literature. This is true for all research, but is not necessarily true for evaluation studies for example. Action research should also add to the wider body of knowledge, as well as enhancing practice within the action researcher's setting. This distinguishes it from reflective practice, which is primarily concerned with developing personal understandings and practices.

Additionally, action research differs from other forms of research in its focus on improving practice as opposed to developing theoretical understandings.

> The fundamental aim of action research is to improve practice rather than to produce knowledge. The production and utilization of knowledge is subordinate to, and conditioned by, this fundamental aim.
>
> (Elliott 1991 p.49)

The aim of 'conventional' research is generally to answer the question "What is happening here?" whilst the aim of action research is to answer the question "How can I improve what is happening here?" (McNiff, Whitehead, and Lomax 1966). Those who carry out 'conventional' research may well criticise action research, often alongside other qualitative approaches, for lack of research questions, quantification, control, objectivity, etc.. Without a doubt there are limitations of action research; for example, action research cannot lead to causal explanations, and findings are not usually generalisable and can normally only be applied to the situation in which the action research was undertaken. However, the benefits and effects of action research can be considerable (see What effects can action research have?). Furthermore, one piece of action research may only change the situation where the research took place, but if a great deal of action research is undertaken (and shared) education can be transformed.

Most authors (eg, Lewin 1946; Elliott 1991; Dick 2002) when writing about action research stress its cyclical, or to be more precise its spiral nature. The number of stages in the cycle may vary but can be generally summarised as

Plan → Do → Review

However, this is probably too simplistic to be helpful, and a more detailed plan is presented in Table 1.

Table 1 The action research cycle (adapted from Elliott 1991)

Cycle		Stage	
1	PLAN	1. Identify initial idea	What aspect of practice do you want to improve?
		2. Reconnaissance, reflection and initial planning.	Find out what is already known in relation to your initial idea including analysing what the literature says.
		3. General plan - your action steps	Decide what you are going to do and how you are going to investigate your initial idea (in the light of what you have learnt from your reconnaissance).
	DO	4. Implement action steps	
		5. Monitor implementation and effects	Monitor and analyse what is happening as you implement your action steps.
	REVIEW	6. Revise General Idea	In the light of your reconnaissance, analysis and reflection, refine your thinking and refocus your investigation
2, 3, 4 …	PLAN	New action steps	
	DO	Implement action steps	
		Monitor implementation and effects	
	REVIEW	Revise General Idea	

For an action research project to be successful requires careful planning and some pointers to this are presented in Table 2.

Table 2 Pointers in planning an action research project

Keep it small scale
Choose a focus that you think is worthwhile
Decide on a question
What are intended outcomes
Make sure the plan is **'do-able'**
Produce a timetable
Try to work collaboratively
Use the literature

As stressed earlier, one of the main features of action research is its flexibility. If monitoring the implementation of an action step reveals a problem the steps can be revised. It should be noted that during Stage 2 – 'Reconnaissance, reflection and initial planning' we specifically mention using the literature. In our experience, this factor is often ignored in practice, and may result in the 're-invention of the wheel'.

It is also apparent that 'monitoring implementation and effects' is crucial to revising the general idea and the subsequent development of new action steps. Thus, collection of evidence during the implementation of stages is extremely important. Evidence can take a variety of forms as illustrated in Table 3.

Table 3 Forms of evidence

Notes and Diary (staff and pupil)
Lesson plans
Classroom materials
Students' work
Observation
Photography, Audio-taping, Video-taping
Focus Group
Interviews (staff and pupil)
Questionnaires (attitude, opinions)

Pring (2000) argues that reflection within action research needs to be 'public'. This can be achieved through the dissemination of reports of your study and through the use of peer review and constructive criticism. This notion of criticism and in particular the use of a 'critical friend' is another important feature of action research. A critical friend is a person who examines your findings to help ensure that your evidence and interpretation are sound, which helps to ensure the validity of your study (Bassey 1990).

When undertaking action research concerned with teaching and learning there is a problem related to the spiral nature of the curriculum. Action research's cyclical approach is all very well in theory, but if we decide to examine how to improve the teaching of some aspect of a particular subject, set up an action research project and carry out the first cycle, then devise the 2nd cycle, this cannot be implemented until the subject is taught again and this may be a year later. This is why many action researchers write up their project at the end of the first cycle.

What effects can action research have?

It is apparent that the focus of the research will to some extent determine the effect of a particular action research project. One approach to answering this question is to examine the different levels at which action research can impinge on the educational establishment.

1) Student development level
    An action research project may be designed to meet the needs of a particular student or 'category' of students eg, How can I improve the literacy level of a dyslexic student? Or, a project may inform wider practice eg, How can I improve Yr X girls' sense of enjoyment in mathematics?

2) Staff development level
    At the staff level, action research can be used to contribute to the professional development of individuals, promote particular aspects of practice, and inform or increase awareness.

3) Group development level
    Action research projects can be used to co-ordinate work across year groups, or subject departments to consider and develop say aspects of progression.

4) Institutional development level
    At institution level, action research may be used to adopt wider practice and to investigate administrative or management processes. Additionally action research may be used to convince management of need for change and/or investment.

5) Social or community development level
    Action research can also be used outside of the confines of the educational institution, to improve the out-of-school/college learning of students, encourage and improve parental involvement or utilize parental and community experience.

6) Wider educational community development level
    By publishing (say on the internet) appropriately structured and detailed reports (see Table 4) of action research it is possible that it can contribute to not only to the development of the particular educational establishment, but the development of the wider education community. Indeed, as we saw in 'The nature of action research' one of the defining characteristics of action research is that it enhances the wider body of knowledge, which means that sharing information about your project is a vital part of the process.

It should be noted that these purposes or possible effects are not mutually exclusive and the most effective examples of action research often span several of them.

Table 4 Sharing results

The content of a report on an action research project will vary depending on the audience (eg, rest of staff, head, governors, published on the internet), but generally should include:
*   the context (facilities, numbers of students, ability, age);
*   the aim of the research project / the improvements hoped for;
*   a description of the how the project was implemented including the stages;
*   a description of the how the project was monitored;
*   evidence of change (improvement);
*   possibly an explanation of what you learnt from the experience;
*   questions arising from project.

In order to be able to include all these items the earliest an action research project should be published is after you have completed the first cycle and have devised the 'new action steps' (see Table 1).

According to Day (2000 p.112-113)

> ….all good schools will be learning support organisations for teachers as well as pupils. As part of their school development plan they will have a policy for staff development, which will enable teachers to have increased opportunities for sustained reflection through this examination of thinking and practice."

Action research clearly provides the potential to form the central strategy within such a policy for staff and institutional development.

Action research and ICT

Action research is vitally important with respect to the use of ICT in education for a number of reasons. *Information and communications technology in UK schools: An independent enquiry* by the Stevenson Committee (1997) highlighted not only the potential uses of ICT in UK schools but concluded that the state of ICT in UK schools was primitive and not improving and that it should be a national priority to increase the use of ICT in schools. Since 1997 there have been numerous government initiatives in the UK to encourage the use of ICT, notably the implementation of the National Grid for Learning (NGfL) (DfEE, 1997); the lottery funded (New Opportunities Fund (NOF)) scheme to provide ICT training or re-training for all 500,000 practising teachers and school librarians (TTA, 1998); and Curriculum Online (DfES, 2002). However, successive Ofsted reports (eg, Ofsted, 2005) have noted the lack of or slow progress made in the use of ICT to support teaching and learning. Furthermore, the technology available to education (interactive white boards, Tablet PCs, network bandwidth, etc) continues to evolve. One way of promoting the wider use of ICT is by encouraging practitioners to take part in and share their experiences through action research.

Action research has been identified as being particularly well suited to the study of innovations, and in particular the use of ICT in education (Somekh 2000), not least because it is more likely than 'conventional' research to form the basis of recommendations that can be implemented easily in practice (Somekh 1995).

Action research is one of the methodologies currently being used as part of the ICT Test Bed project [http://www.evaluation.icttestbed.org.uk/].

Expanding our knowledge base about educational ICT use is important. Collating and analysing data from numerous action research projects in this field would provide a wide body of evidence concerning the effectiveness of ICT in education. If we are going to continue to invest huge sums of money in educational ICT then we need to have more evidence of the benefits of that investment (Twining 2002).

A contentious exploration of the future of action research in education

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Since 1997 the Labour government "has been highly favourable to evidence-based policy and practice in education" (Foray & Hargreaves 2003 p.15), which has fuelled the debate about the nature and impact of education research. Today it is difficult to avoid references to research and evidence based policy and practice when exploring websites belonging to government agencies. For example, Figure 1 shows an image from The Standards Site, which illustrates some of the national initiatives established in England in order to enhance teacher's use of research evidence.

Figure 1   National initiatives for communicating with teachers about research (DfES 2005)
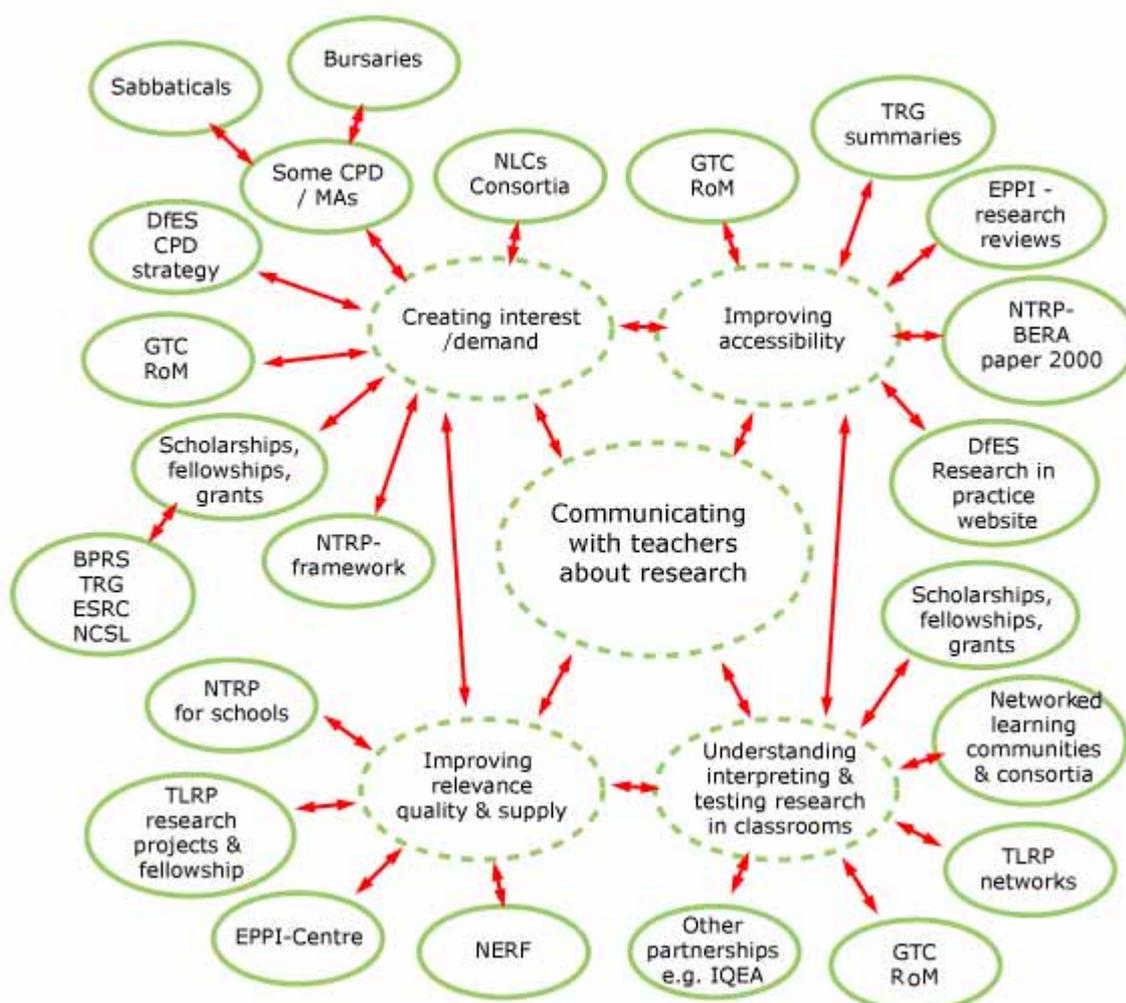
Implicit within Figure 1 appear to be a number of assumptions, including, teachers are:
- not interested in research (there is a need to create a demand);
- unable to access (ie, understand) research (research needs to be made more accessible);
- consumers of research rather then being researchers.

This apparent perception of teachers as not being involved in research is problematic for the profession. Stenhouse (1975) argued for the importance of teachers being researchers of their own practice in order to enhance their own professionalism. Abdal-Haqq (1991) went further when he identified that teaching lacks one of the key characteristics of professions, namely having "a clearly defined, highly developed, specialized, and theoretical knowledge base". The assumptions within Figure 1 certainly suggest that there is a belief that even if an appropriate knowledge base exists

teachers are not engaging with it adequately. This might help to explain why governments over the last 20 years have sought to implement initiatives which many have perceived as deprofessionalising teaching (eg, Jeffrey and Woods 1998, Adams 2002). Some would argue that such measures include an increasingly prescribed curriculum (eg, the National Curriculum), increasingly prescribed methods of delivering that curriculum (eg,. National Literacy Strategy, and National Numeracy Strategy), and moves to enable 'unqualified' staff to teach some subjects or cover classes (under the supervision of a qualified teacher).

Action research presents one way in which practitioners could re-establish their professionalism, by providing opportunities for collaborative school or college based professional development. The very nature of action research means that it is institution focussed, which is vital for staff development that is going to enhance practice (Twining & McCormick 1999). Action research also provides a vehicle for meaningful collaboration, which is crucial if teachers are to develop ownership of the shared body of knowledge that is so important to both their practice (Day 2000) and their professionalism (Hargreaves 2000).

Ways forward with ICT and action research

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From the discussion above it is apparent that, even though there are drawbacks and obstacles to action research, the benefits clearly outweigh the limitations. How then can action research be encouraged and supported?

At least initially, engaging teachers or college lecturers in action research will often require them to develop new ways of working in collaboration both with their colleagues and with 'professional researchers' (Hargreaves 2001). Knowledge and understanding of what action research is; how it can be undertaken; its strengths, benefits and limitations, all need promoting. This will require funding, and some steps have been taken to provide this:

> "The Teacher Training Agency (TTA) has created funds to support teacher-researchers in schools, who in practice work closely with academic researchers in universities. This has been matched by Best Practice Scholarships for teachers, funded by the Department for Education and Skills. The TTA also funds research consortia in which groups of schools and higher education institutions come together to undertake research and development in partnership, with a particular focus on 'what works' in attempts to improve teaching and learning."
>
> (Foray & Hargreaves 2003 p.15).

However, much more needs to be done and action research needs to become more deeply embedded as a normal part of professional development for all school and college staffs.

A way forward here could be by educating head teachers and principals with respect to these issues and the benefits of action research for their school or college – a role for NCSL perhaps? The General Teaching Council's (GTC) Teaching and Learning Academy (TLA) could also be expected to take on a strong lead role in promoting, rewarding and recognising teachers' action research, as this seems to be a part of their brief (GTCE, 2005). Currently LEAs appear to have a pivotal role in the TLA initiative and thus understanding of action research needs developing within LEA support teams. The role of the LEA is also essential in promoting and supporting action research. For example by publishing reports of action research on their websites, and developing networks of researchers. Higher Education Institutions (HEI) also have a role to play in both enhancing the understanding of action research across the educational community, and in recognising and valuing practitioners' action research.

Undoubtedly the pursuit of action research by teachers or lecturers will add to their workload, and workload is a sensitive issue. The time taken to undertake action research needs recognition and funding, for example from staff development budgets. As we have seen, action research can play an important part in embedding innovations (see Action research and ICT), and thus should be costed into such projects. Indeed the issue of funding to encourage action research relating to ICT in education is crucial to its development, and the Government need convincing of this – a role for Becta perhaps?

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