# Focus on Learning: Action Research and professionalism in Scottish Further Education

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## 1. Introduction

In early 2000 Cardonald College began to explore attempts made in the school sector to apply ideas that had arisen from recent research into the brain and its learning mechanisms. Some members of staff had begun to explore ideas related to mind-mapping through the work of Buzan[1] (Buzan 2001) and the impact of physical factors on learning with their student groups. However, there had been no systematic attempt to apply or evaluate the effectiveness of these ideas in further education in Scotland. This realisation led to the development of a proposal to the Scottish Further Education Funding Council's (SFEFC) Strategic Development Fund, for the Focus on Learning Project (FoL). Focus on Learning took place over two years and involved four partner colleges; in addition to Cardonald College, Angus, Cumbernauld and Falkirk Colleges joined the project.

A set of objectives, aimed at exploring a wide range of ideas and theories was agreed between the colleges and SFEFC. These would be applied with a practical aim: to raise student achievement and further the development of a learning culture within each college. Wider strategic aims also included a 'continuing commitment among staff in participating colleges to reflecting on their own practice, and to finding and applying new good practice'[2] (Rand and Miller, 2003)

This paper will discuss the process of applying action research approaches to a Further Education setting, the process of managing action research across a number of projects, and the implications this can have for practice in Further Education colleges.

## 2. Why Action Learning?

Action research is a relatively new style of research and it can be built upon elements of case study or survey work. It involves cycles of action and reflection to review and improve practice. There are many models of action research that can be adjusted to match the problem in hand. The philosophy behind action research is one that engenders ownership of change. This is very

important where we hope to adopt the findings of the evaluation of effective teaching approaches. In addition, action research allows the adoption of smaller elements of other methodologies to be used within the action and reflection cycle. These characteristics of iterative improvement, embracing other methodologies, and maximising ownership provide a strong case for this being the best fit style for this type of research work in FE.

The field of quantitative research has a long established tradition, and indeed, philosophy. It can be traced back to eminent thinkers such as Descartes[3] (Descartes, 1637) and was reinforced by Newtonian views of a mechanistic, rationally ordered universe. The Scottish proto-social scientist Sir Thomas Sinclair was among the first to compile statistics as a means of prescribing social problems and 'perfecting the science of government'[4] (Broadie, 1997). This Enlightenment legacy of developing mathematical and scientific thinking, and applying the rules of these to all aspects of human endeavour established a literature and research style that was not seriously challenged until the early 1940s. Kurt Levin[5] (Greenwood and Levin, 1998) is widely credited as founding the action research model. Levin initially had a central focus on social research and his approach is linked philosophically with the thinking of the staff of the Tavistock Institute of Human Relations. It is important to note that action research was not only regarded as a new practice in research, but also regarded as having a completely different underpinning philosophy. This paradigm shift is important in recognising the value of studies such as this. Notably, this paradigm is consistent with the philosophy underpinning self-evaluation, a practice familiar to the action researchers in the FoL project.

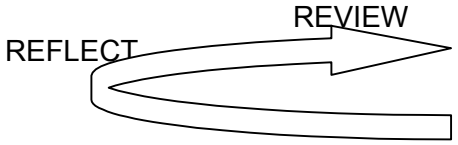
Action research has developed not only as a method of research inquiry. It is widely viewed as an 'educative' model, a way for individuals and communities to learn and change. In this way it competes with traditional models of education, being a model adopted for professional development in some settings. The philosophy behind action research is similar to that of self-evaluation. This philosophy, based on the work of Schön[6] (Schön 1983) and others, makes action research a more appropriate approach to apply.

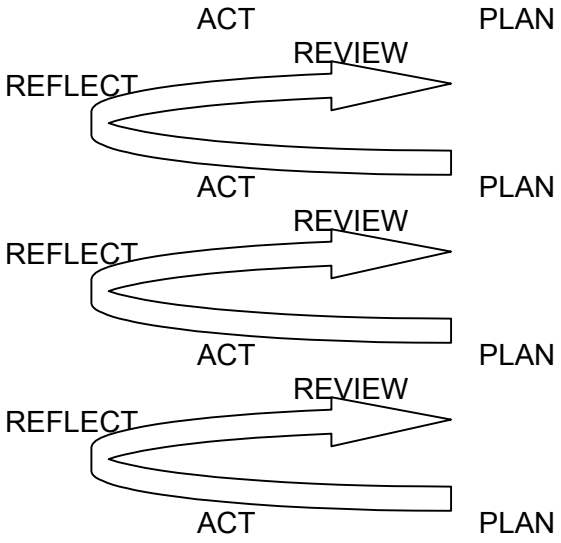
## 3. Action research defined

Action research is not a methodology that lends itself to absolute definition, as many variants of action research are used. In spite of this, there are a number of useful definitions established in the field. "AR [action research] is social research carried out by a team encompassing a professional action researcher and members of an organisation or community seeking to improve their situation" (Greenwood & Levin, 1998, p.4). Other definitions bring in concepts such as self-reflective enquiry and the notion that action research can embrace other research practices within the model.

At the heart of action research is Levin's idea of a cycle of planning, acting, observing and reflecting. This is refined in the work of others such as McNiff[7] (McNiff, 1988) to be described as a plan, act, reflect and review cycle. This is a cycle repeated working towards a greater understanding and/or improved practice. This is often represented by leading authors such as Schön and McNiff as an upward spiral, and is represented in diagram 1.

**Diagram 1**






(Adapted from Schön, 1983)

This cycle defines the classic action research model.

Central in the design of this study is the notion of co-generative learning. This idea, developed in Greenwood and Levin (1998) and further developed by others such as Elden and Levin[8] (1991) promoted the notion of the researcher communicating the work in progress to the group who are involved in the inquiry;

> The insiders are the focal point of every AR project. They are the owners of the problem…Outsiders are professional researchers who seek to facilitate a co-learning process aimed at solving local problems.'

(Greenwood and Levin, 1998, pp115-126)

The group then reflects on the work, contributing to review, then they would feedback ideas to move the research forward. The inputs to cogenerative activity can come from any smaller research steps in the action research, including literature reviews or learning from the direct experiences of colleagues.

An element of successful action research is also the use of an external advisor/observer/supporter. This idea, described in great detail by authors such as Greenwood and Levin (1998), is an essential element of this study. This links with the notion of the 'friendly outsider' providing support and information. This view was summed up by as follows –

> 'Good professional action researchers achieve a balance of critique and support through a variety of actions, including direct feedback, written reflections, pointing to comparable cases, and citing cases from the professional literature where similar problems, opportunities or processes have occurred.'

(Greenwood & Levin, 1998, p.104)

This support was offered by the Scottish Further Education Unit (SFEU), which is the leading development and strategy agency for FE colleges in Scotland, to the project staff, who appreciated the help allowing them to concentrate more energy on their own interventions.

## 4. 'New' Ideas of Learning

### Learning Styles and Andragogy

The concept of different learning styles and of learner (and lecturer) preferences has come under increasing scrutiny. Research in England and Wales led by Frank Coffield[9] (Coffield et al, 2003) suggests that the effects of learning styles are not as dramatic as previously claimed. Learning styles have nevertheless enjoyed increasing popularity among educators. The Honey and Mumford[10] (Honey and Mumford, 1998) analysis of learning styles, which classes learners in terms of activists, reflectors, theorists and pragmatists has gained particular currency. Linked to the styles are a range of pedagogical preferences; visual, auditory, kinaesthetic and tactile.

Linked to this are ideas specifically related particularly to the learning of adults, the term for this coined by Knowles[11] as 'Andragogy' (Knowles, 1985). In this case, learning approaches must accommodate and appreciate the learner as an adult. The learning environment must be characterised by physical comfort, mutual trust and respect, mutual helpfulness, freedom of expression, and acceptance of differences. The learners should also perceive the goals of a learning experience to be theirs as much as the tutors'. Given the increasingly older demographic profile of FE students and adults returning to learning, these in ideas are of particular interest for a Further Education context.

### Thinking Skills, Memory and Recall

In recent years developing technology and increased sophistication in the sciences of the brain have given us a much better understanding of how the brain works, how human beings learn and about the nature of 'thinking'. The work of psychologists and neurologists into ideas as recency, primacy and the study of brain cells in action during a learning process has been increasingly appreciated by educators as a means of developing a more 'scientific' pedagogy. The alleged shift to a 'knowledge' economy and global markets underscores the importance of helping all learners in the community to exploit 'thinking' strategies to maximise their own learning – McGuiness[12] (1999) terms this as 'learn how to think and think how to learn'. Improved understanding of the workings of the human brain has also led to the development of tools and techniques for improving the retention of information and recall. Mnemonics, mindmaps and study techniques were all considered by action researchers.

Within the scope of this project, several ideas and methods of developing thinking and recall skills were tested;

- Those helping students to organise their knowledge –such as mindmaps, concept maps, etc
- Visual techniques and attention to learning preferences to aid retention of information
- Consolidation of prior knowledge; rules, analogies, examples
- Facilitation of information processing –problem solving
- Deep thinking' – peer tutoring, paired problem solving
- Explicit Thinking Processes– asking questions, summarising, asking students to predict.

### Physical Factors

That physical and environmental factors impact on the brain and therefore on the efficiency of the learning process is generally understood. However, to date, this knowledge appears to have had relatively little impact on approaches to teaching and learning in any sector of formal education and training. In this area therefore, there was an opportunity to explore the potential of physical interventions as means of maximising learning among students.

**Emotional Intelligence**

Goleman's[13] (1998) ideas of emotional intelligence relate directly to other, relatively new, 'holistic' concepts of skills and competences, such as Employability. He describes it thus;

'The rules of work are changing. We're being judged by a new yardstick; not just by how smart we are, or by our training and expertise but also by how well we handle ourselves and each other.' (Goleman, 1998 p 74.)

Thus, we can speak of 'emotional Intelligence, best conceived as a set of interpersonal competences;

- Self-recognition of one's own feelings and being able to effectively manage them
- Self-motivation in completing tasks, acting creatively and achieving peak performance
- Sensitivity and awareness of what others are feeling
- Being able to handle relationships effectively.

**The Link to Retention and Achievement**

An implicit assumption tested by the project was that the quality and effectiveness of the approach is at the heart of resolving all other issues and overcoming barriers between learner and teacher[14](Martinez, 2001). Research conducted by Beach[15] (Beach, 2001) at Dumfries and Galloway College showed that the first, and most important barrier to many learners was their feelings of intimidation and lack of competence in key skill areas. It was only by helping the learner to recognise and overcome their personal 'barriers' to learning he/she faced that real progress could be made.

**The Project**

The Focus on Learning Project aimed to:

- Motivate staff across the participating colleges to explore new ways of supporting student achievement.
- Raise staff awareness of learning styles, thinking skills, emotional intelligence and the impact on learning of physical factors such as nutrition, hydration, music, etc.
- Improve staff skills in:
  - Creativity and innovation
  - Planning for student motivation
  - Use of diagnostic and planning tools
  - Application of recent research
- Implement action research programmes to support improved student achievement.
- Evaluate the interventions and success of the project as a whole in meeting its objectives
- Embed effective new practices in the participating colleges.
- Integrate good practice into the staff development programmes of the colleges.
- Disseminate the findings and outcomes of the project to the sector as a whole.

The first phase involved an extensive staff development programme, to raise awareness of recent research into teaching and learning and the potential implications for their own practice. This led to the creation of fourteen individual action learning projects, each involving a small team of college staff. The teams devised, developed and implemented an 'intervention', which would apply and evaluate a particular attempt to raise student achievement, through a number of phases;

- Devising the action research/learning]
- Implementation
- Continuous review and evaluation
- Sharing and disseminating experience and findings

In addition to the individual interventions a number of collaborative project activities, involving all intervention teams, took place through the life of the project. These provided opportunities for the exchange of ideas and experiences.

## 6. The Interventions

**Cardonald College**

Intervention C1: A Case Study for Electronics Non-Advanced Provision – Emotional Intelligence, Thinking Skills and Computer-Aided Learning

Intervention C2: Developing Personal Effectiveness and Emotional Intelligence

Intervention C3: The Effects of Physical Factors, and Learning Styles

Intervention C4: Think Positive! – Emotional Intelligence and Professional Studies for Design Students

Intervention C5: 'Can't Remember' – Memory and Recall

Intervention C6: Integrating Study Skills in the Classroom

Intervention C7: Learning Styles and Achievement in Information Technology

Intervention C8: Using Emotional Intelligence and Students with Learning Disabilities

**Cumbernauld College**

Intervention CL 1: Facilitating Adult Learners to Achieve

Intervention CL 2: Early Intervention to Increase Student Motivation and Achievement (Steps to Excellence Programme)

**Falkirk College**

Intervention F 1: Practical Approaches to Electronic Engineering

Intervention F 2: Study Skills

**Angus Projects**

Intervention A 1: Physical Factors and Learning in Media Studies

Intervention A 2: Thinking Skills in Business Management Programmes

**Evaluating the unevaluatable?**

The nature of the project objectives and the individual interventions, where the focus was often on 'soft' student outcomes and issues related to the qualitative elements of learning processes, posed difficulties for us in developing evaluation methods that could be applied 'across the board'. A soft skill evaluation questionnaire was developed for use by staff, building upon models identified from other research and development projects. The resulting evaluation approach, while not perfect, we believe represents a significant advance in terms of capturing this data effectively.

Although each team worked independently, cross-fertilisation was to some extent inevitable and in fact, proved to be a fruitful aspect of the project, and fit well with the cyclical Action Research/Learning model we applied. Furthermore, by sharing experience and discussing issues and outcomes with other project teams was one way in which the project was able to build-in processes of review and evaluation.

At three points in the life of the project intervention teams came together for 'review and sharing events – February, June and October. A primary focus on each occasion was a set of review questions:

- What have we done?
- What have we learned?
- What are we going to do now?

These activities were extremely successful and productive. In retrospect – and on the basis of evaluation responses from project participants – there would have been benefits in holding more of these events. The final project review conference used the Her Majesty's Inspectorate of Education (HMIE) Quality Assurance checklist, used in colleges to assess the performance of colleges in areas of learning and teaching, as a framework for measuring project achievements, lessons and outcomes.

Many project teams admitted they found the processes associated with completing the evaluation and 'writing-up' project reports difficulties – the majority was new to action research as an approach. However, the process of 'write up' was an important part of the individual and collective learning process of the project. Many valuable lessons and insights were distilled, refined and shared through the process, as well as from the report itself.

- **Implications for Theory and Practice**

The tentative findings suggest that the following can help attempts to raise the quality of student achievement:

- Building and supporting students' self-esteem.
- Making students aware of their own learning preferences/styles and helping them to 'learn how to learn'.
- Empowering students to manage and assess their own learning.
- Helping lecturers to recognise the consequences for their own learning and learning preference/style – the 'educator-learner' described by Knowles (1985)

- Highlighting (for students and lecturers) the impact of 'emotional intelligence' on the motivation and capacity to learn.
- Helping students and lecturers to recognise and overcome potential and actual 'barriers to learning'.
- Recognising 'soft outcomes' and 'distanced travelled' as real, if difficult to measure achievements.
- Recognising that a narrow view of assessment and outcomes can limit achievement.

## 7. Conclusion: A new research and development model for FE?

We would argue, that the – at times heady – mix of research, action and development encompassed in this project offers new and exciting routes for educational research to take. It allows for the testing of theory and pedagogy in the real world, while conferring positive results and achievements in a simultaneous 'real-time' context. Many of those directly and indirectly involved in the project found it refreshing that time, attention and resources were being devoted to exploring ways to improve the teaching and learning process – this undoubtedly contributed to a 'Hawthorne Effect' among those staff, which contributed to some of the project successes.

A top-down/ bottom up' model, with a clear management lead accompanied by reliance on, and accommodation of, practitioner initiative was also particularly effective. This led to ownership by the staff, and a willingness to accept responsibility and, where appropriate, to give the learners more responsibility for their own learning. The partnership operating across the four colleges and with SFEU was also a major strength; it widened the base of experience, extended the pool of expertise available, and offered – especially in collaborative meetings of all projects – a very supportive forum for self-critical reflection.

Some simple ideas were powerful in their impact. For example, the 'taster' and 'food for thought' sessions proved to be a very effective way of raising awareness and motivation. On the other hand, aspects such as writing proposals, completing evaluations and writing project reports all proved to be more time-consuming than expected.

Some other major influences had just not been anticipated at the beginning. For example, the use of concept mapping spread through the project almost spontaneously. Staff who had not initially planned to apply concept mapping directly to their own intervention began to do so.

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