



Anglia Ruskin
University

Cambridge & Chelmsford

University Centre for Learning and Teaching

Using Research into Student Learning to Underpin Teaching



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Introduction to student learning, and learning research: researching and enabling student learning

This booklet looks at ways in which we might use research into student learning in order to identify the kinds of learning and teaching, and the kinds of assessment practices, which better enable our students to have a quality learning experience and achieve quality learning outcomes. It looks briefly at what we do know about how students learn and how we might contribute to enabling that learning through learning and teaching oriented research that relates to, builds on and feeds into practice.

What do we know about student learning?

Actually, very little is *known* about student learning but there are many learning theories and a great deal of research. Putting these together with our own experience as teachers and facilitators of learning helps us to match intuition with research evidence, and so tell us more about our students' learning.

What follows is an introduction to some research about student learning, and some research vehicles you might like to use to find out more about your students' learning. We look at the special case of action research which involves sharing the research with students as collaborators and so *directly* aids their learning, and several examples or case studies of student learning research which we are carrying out at Anglia Ruskin University, with which you might like to be involved. UCLT are there to provide practical support, networks, and contact with other research, researchers and publications.

Identifying students' learning styles, preconceptions and approaches

In each class or learning situation, you will no doubt encounter a range of learning styles. Only some of your students will have learned using methods and practices that *you* find successful, so it is unwise to assume that everyone learns in the same way that you do.

In order to facilitate your students' learning, it would be helpful, as far as possible, to establish *how* they learn. Several questionnaires and inventories help assess learning styles, such as the Approaches to Study Inventory (ASI), (Biggs), or the Honey and Mumford learning styles questionnaire. Biggs' ASI distinguishes whether your students are likely to be taking:

- a deep approach to learning – that is, integrating new learning into what they have learnt previously and into their own experience and context, or
- a surface approach to learning – that is, learning discrete items, often rather superficially.

A wealth of research (Ramsden, Entwistle and others) suggests that, while *surface* approaches might have been rewarded in some subjects in school, at undergraduate level, students need to develop the ability to take *deep* learning approaches to be successful learners. Another key issue related to deep and surface learning is that of memorising. All subjects require some memorisation but the work of Meyer (2000), for example, has shown that

students who merely memorise or memorise before they understand (rote learning) are less likely to be successful learners in higher education than those who understand before they memorise.

Some recent examples of interesting research into student learning

Student preconceptions

Erik Meyer (Durham) and Martin Shanahan (University of South Australia) have been working with economics students to identify gaps or dissonances between students' preconceptions (misconceptions, as it turns out) about what economics 'is' as a subject to study, and as a way of thinking about and acting in the world.

Using questionnaires and interviews and testing at induction, they discover some students have misconceptions about the subject and how to approach it, how to think about its issues, questions and problems and that these misconceptions explained, to a large extent, why they were failing as they proceeded with their study.

This is valuable research because it identifies issues and problems in a mismatch between students' learning approaches and perceptions of the learning required in a subject, and the actual learning required, and learning outcomes of the subject.

The next step if we want to use such research in underpinning developments in student learning is to consider how by working with the curriculum and the students, such misconceptions could be overcome.

Once assessed, this knowledge of your students' approaches to learning can be married with the kind of learning your teaching encourages and that demanded by your subject area. Students need to develop a variety of approaches to a range of different learning situations and outcomes, so we need to help them to become versatile as learners.

How we teach is an important, (but certainly not the only) contributory factor in enabling student learning. Students indicate that they value and possibly learn more from a lecturer's enthusiasm for their subject and for encouraging learners to learn, than the lecturer's subject knowledge and organisational abilities (see research carried out by Lee Harvey at University of Central England). So we also need to think about *how* we teach and facilitate learning.

Did you know?

- ◆ The majority of material delivered in a lecture is quickly forgotten unless students actively process the content within 24 hours of the lecture.
- ◆ When students remain passive, they are unlikely to learn effectively for stretches longer than 20 minutes at a time.
- ◆ The extent and depth of each person's contribution to a seminar depends on how much at ease they feel in the group. Time spent helping our students become familiar with each other can only be beneficial. (*Oxford centre for Staff and learning development teaching More students project 1991*)

Established and current theory and practice of research into learning – recognising learning approaches and styles, and supporting student learning

Learning styles: deep, surface and strategic learning

Established research into student learning identifies two main learning styles – deep and surface learning (Marton & Saljo 1976, 1978, Ramsden 1979). It is suggested that ‘traditional teaching’ largely encourages surface learning particularly in science subjects, but that deep learning produces better results and longer lasting learning for the students.

The **surface or atomistic learner** tends to see knowledge as the acquisition of a number of facts, tasks and objectives are seen as discrete, as are the stages towards completion of a task, time is very important and any personal relation to the work is considered inappropriate and even misguided. This kind of student relies a great deal on learning and memorising because they are not uniting ideas and facts, and they are not fitting new information into already developed learning or concept ‘maps’.

The **deep or holistic learner** searches for the meaning which lies beyond or within the specific task, relates any discrete information given to a general, already established learning or concept map, relates new ideas and learning to prior experience and prior learning, moving this on as new information and ideas are added. They personalise learning tasks and integrate them. They see the whole problem, the general ideas, the main concept and fit the learning activity into these over frames of understanding and of personal experiential reference.

A third category of learning has also been identified – strategic learning

Strategic learning is focussing on the end product, the marks, with the main aim being to pass. It means the student grade chases and only learns what looks necessary, thus there is no linking and little retention.

Disciplines / Subjects

Different discipline / subject areas, and different parts of discipline areas, might be taught in a way that encourages either surface or deep learning. Ramsden (1979) shows that students can switch strategies, to suit tasks, whilst Thomas and Bain (1982) argue that students develop a certain learning style and do not change it. Biggs and Rihn (1986) show that while students might show tendencies for either sort of learning, it is *both possible and desirable to encourage the development of deep learning approaches* because these are overall the most successful learning approaches. Depth of processing implies meaningfulness in learning.

A deep learning strategy, based on wide reading, reading new knowledge to what is already known and so on results in better learning. 'Better' is described as complexity of outcomes (Biggs 1978b, Marton and Saljo 1978 a 1976b): satisfaction with performance, (Biggs 1978, Ch. 6): self-rated performance in comparison with peers or examination results (Schmeck 1986, Svensson 1978, Thomas and Bain 1982, Watkins and Hattie 1981). Not only does consistency exist over such varied ways of defining good quality learning, the measures of depth of processing are also quite diverse (Biggs and Rihn, 1986).

It is often the case that students studying science and information heavy subjects, more usually adopt a surface approach and that the subjects tend to call for this, certainly initially when a foundation of knowledge and information is required early on in a course. However, learning theorists (Ramsden, Entwistle, Saljo, Svensson, Marton, Gibbs) stress that all higher education students need to develop the skills to carry out deep or meaningful learning to actually succeed at degree level. Research carried out by Svensson et al suggests that those who learn to adopt a deep approach gain better exam results in the end (and/or become better learners).

A useful learning activity to encourage is the development of an awareness of how you are learning, i.e.: '**metacognition**' – aided by reflection (deep learning).

Learners who contextualise their learning tend to relate it to themselves and their own world. They concentrate on how they are learning as well as what they are learning. They are frequently higher achievers than those who are less aware of or consider irrelevant such consciousness and contextualisation. Those who remain learning at a surface level concentrate instead on acquisition of fairly disparate facts and the achievement of discrete tasks and objectives. Most students adopt both approaches to suit different learning situations, teaching and outcomes.

Students' approaches may differ at different times and in different learning situations. This may produce a diversity of learning outcomes for teachers and supervisors. Difficulties could arise if, however, particularly at postgraduate level, students adopt a consistently surface approach, i.e: accumulation of information rather than cohering it into an interpretation which changes the way you see the subject or the world.

These notions of broad approaches to learning have developed into fuller and more complex studies of students' learning and their variants. Current theories such as phenomenography now also include a focus on the context of the learning and on interaction between students' preconceptions of learning, learning outcomes, learning activities, learning approaches and subject related learning demands, content and teaching and learning activities.

Learning styles (The Manual of Learning Styles 1986)

Honey and Mumford also provide definitions of learning styles. Each style has its own strengths and weaknesses. There are no 'good' or 'bad' styles. Your major styles will tell you what strengths you have as a learner, which things make it easier for you to learn and what you need to be wary of. For example, studying car mechanics will tend to favour 'pragmatists' and English literature will tend to favour 'reflectors.'

The greatest variety of learning opportunities are available to those who can, to some extent, operate in all styles, but who are clear, when facing a problem, about which style is most effective for them.

The Manual of Learning Styles contains a questionnaire which helps identify the differing balances of students' learning styles. Using the questionnaire with students as part of an induction, teambuilding or development problems can aid staff and student knowledge about ways in which, and contexts in which, students are more *inclined* to learn (so this can be reinforced) and *then* inclined to learn (so build in activities to help develop their approaches and styles).

Activists

Activists learn best from constant exposure to new experiences. They like to involve themselves in immediate experiences and are enthusiastic about anything new. They tend to act first and consider the consequences later. They enjoy new challenges but are soon bored with implementation and consolidation. They learn least well from activities that require them to take a passive role.

Reflectors

Reflectors learn best from activities that allow them space to ponder over experience and assimilate new information before making a considered judgement in their own time. They tend to be cautious and thoughtful, wishing to consider all the possible angles and implications before making a decision. They often spend a good deal of time listening and observing. They learn least well from activities that require rapid action with little time for planning.

Theorists

Theorists learn best from activities that allow them to integrate observations into logically sound theories. They like to think problems through in a step-by-step way, assimilating new information and experience into a tidy, rational scheme. They are good at analysis, and are comfortable using theories and models to explain things to themselves and others. They are less comfortable with subjective opinion or creative thinking. They learn least from situations that they are unable to research in depth.

(from "Implications for teaching" in Honey & Mumford's questionnaire: *Using your Manual of Learning Styles*, 1986)

Pragmatists

Pragmatists learn best from activities that have a clear practical value and that allow ideas and approaches to be tested in practical settings. They tend to be down-to-earth people who like to get on with things. They also tend to be impatient with open-ended discussions. They learn least from situations where learning is not related to an immediate purpose.

Implications for teaching

Using Honey and Mumford's *Manual of Learning Styles* questionnaire, we might:

1. Design learning and teaching activities which reward strengths. For example, if students have a high activist style, then we could: ensure there are short, active tasks, opportunities to get involved, much interaction, exercises to try out theory in practice, 'hands on' experience both immediately and staged throughout the learning process.

and/or alternatively -

2. Design learning activities which help develop, stretch, reinforce learning styles which are *not* 'preferred' by the students, so that they can become more diverse and versatile learners. For example, for students who do not have a high 'reflective' style, we could: ensure that discussions, tutorials, logs and journals encourage and enable structured reflection before, during and after learning activities. For students who do not have a 'high pragmatist' style, we could develop workshops, placements, experiments which enable them to transfer theory into practice and engage in actual examples and experiences.

The main reason we would like to find out more about the learning styles and approaches of our students is just that – so that we can develop or modify their learning experiences to enable them to become versatile learners.

Self-directed learning

One of the aims of good learning experiences and activities is to encourage learners to become self-directed and lifelong learners; their self-direction indicating that they understand, own and control their own learning. Self-directed learning is defined as '...the adult's assumption of control over setting educational goals and generating personally meaningful evaluative criteria.' (Brookfield 1986)

Self-directed learning is not a set of techniques but a process of learning which by its very nature fosters the critical questioning and reflection which should be the purpose of adult education.

These several related theories and practices of lifelong learning (experiential learning – Kolb; reflective practice – Schön; self-directed and lifelong learning) feed into basic assumptions and guidelines underlying success in learning and in the setting up of learning experiences, the monitoring, evaluating and evidencing of learning.

- Learners are able to make use of their own experience as a starting point for new learning and as a reference point throughout the learning process.
- Learners are aware of their individual differences in learning styles and how to build on these or improve on their learning strategies and overcome their weaknesses.
- Learners exercise some control and responsibility for the direction of their own learning. These kinds of choices help them to become more self-directed and self-aware of their own learning needs and achievements.
- Learners are given opportunities and guidance for reflecting on their experience, whether from life, work, or the more formal learning situation, making it explicit and turning it into learning.
- Their learning is task or problem centred; in other words, learners are dealing with problems and issues that have immediate relevance and application.
- Their learning is active – they are able to learn by doing, with an opportunity to apply theory in practice.
- Learners are able to share ideas, feelings and learning experiences (past and present) with other people and to learn from their experiences and ideas.
- Learners are in a climate and learning context that is reassuring and conducive to learning. The learning programme needs to make outcomes, processes, expectations and criteria explicit so that anxieties about assessment procedures, fear of critical or punitive attitudes from tutor or group members, and lack of confidence in the purpose of the learning programme are avoided. These negative elements are not conducive to a good learning climate.
- Learners are involved in negotiating the learning, at all stages; learners should be encouraged to accept a share of the responsibility for the planning, operating and evaluation of a learning programme, and preferably have some choice over learning and assessment methods. With these suggestions in place, learners are more likely to be self-directing in their approach to learning tasks, to own and take responsibility for their learning, and to work effectively with others in developing and sharing learning. They are also more likely to relate their learning to their experience both in everyday life and in their work and practice, and become true lifelong, reflective, self-directed and active learners.

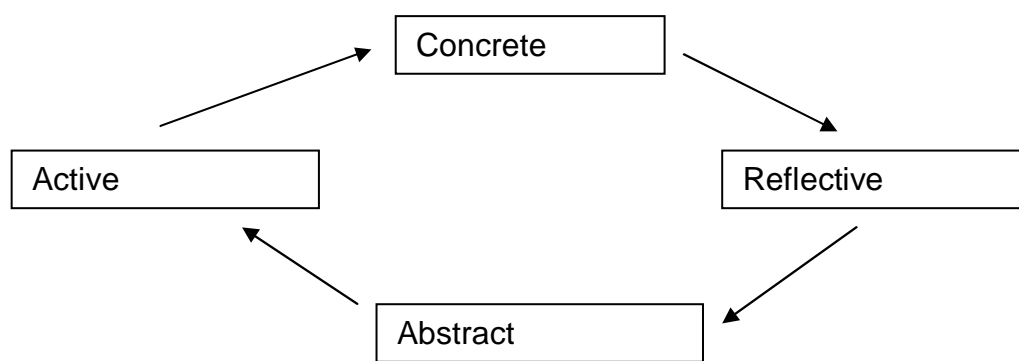
Experiential learning

Kolb (1984, with Fry, 1975) in particular (following Dewey, 1968) developed a model for experiential learning which can be used to help learners recognise and build on:

- (a) their experiences in everyday life, drawing learning from these and

(b) their learning experiences, both individual and in groups, in more formal learning contexts. The latter range from academic classrooms through to workplace training contexts.

Kolb defined experiential learning as ‘the process whereby knowledge is created through the transformation of experience.’ He also developed (1984) a useful diagram which explores how learners start from experience, move through stages of reflective observation and abstract conceptualisation, and then onto active experimentation. After this they begin a new cycle, and on again, building in each cycle on both their experience/experimentation, and their reflection and abstract conceptualisation (see below):



(After Kolb, 1984)

Continuous learning offers the opportunity for fresh, deeper meaning to develop. Other theorists add to the idea of experimentation that of ‘play’ or a creative release and exploration of ideas and practices (Koestler 1964, Gordon 1961, Griffin 1979, Melamed 1987). This could involve the use of imagination and emotions, metaphors, games and simulations, and other creative modelling processes, as well as releasing creative energies in brainstorming or problem solving activities. During the activities themselves, adults often have flashes of understanding and insight, ‘a-ha!’ moments when ideas and experiences fall into place. When reflected on, these activities can lead to self-reflection and personal transformation (Mezirow 1985).

As teachers, building on this research we might construct learning experiences which take students clearly (and reflectively) through the cycle. We could, for example, start with ‘concrete’ and ask students to recall, reflect and draw on their own experiences of, for instance, a legal situation, some experience to do with managing problems, a crime or seeing and being in a landscape (whatever suits your subject), and then to generalise, establish abstract ideas and theory to help add theoretical underpinning – knowledge, concepts, subject language, and then ask students to tackle a problem or deal with a case or example.

Reflective practice

Donald Schön (1983) in *The Reflective Practitioner*, establishes a theory of how professionals and practitioners learn from experience by arguing that professionals respond to and reflect on the varied experience which arises in their work. They then seek development and change. These reflective practitioners are more than merely technical solvers of problems, but use 'artistry' creatively to draw from a set of past examples and precedents to transfer from one situation to the next continually, and create and learn anew in each situation, bringing their past learning to bear on the new situation. While professional work and practice generate experience and knowledge naturally, it is important to make this learning explicit in a learning situation, so as to encourage learners to reflect on and articulate their learning from practice and from their work (see Evans, 1990 and Winter, 1995).

Action research – theory and practice into student learning to underpin teaching at Anglia Ruskin University (Richard Winter)

Richard Winter (CHSS), has years of experience in action research and runs modules on action research in the MA in Learning and Teaching.

Many people choose action research because it enables us to work in partnership with the people on whom/with whom we are carrying out the research. It enables ownership and change to result alongside and after the research. It is particularly useful in practitioner-based research as it is likely to combine quantitative with qualitative methods.

Many of us are involved in dealing with everyday problems and innovations in relation to our teaching. We need to find out why and how certain learning and teaching and assessment practices do or do not seem to 'work', i.e. enable students in effective learning. Action research enables us to be more rigorous in this work with our practices and our students. It enables us to work *with* our students collaboratively on change, development, embedding successful strategies and so on.

Action research is:

Research that we carry out with our students in order to try out an idea or an innovation, test a hypothesis about their learning and to see 'what would happen if...' However, the process is actually more rigorous than this, which is merely a description of the ordinary kinds of innovations we carry out as teachers. Using the principles and practices of action research, we can try out an innovation with students and assess and evaluate its effects, then move on to apply it further. We need to have an initial hypothesis, a plan, probably a pilot stage and one or several methodologies, and then to try out this innovation, measuring and carefully observing its effects. As much of the research is qualitative rather than quantitative, we will be involved in interviews, participant observation, and so on, as much as or instead of the more calculable methodological forms, for example, questionnaires.

When we have come to some conclusions, we need to test these in relation to other methodological strategies and see if the same kinds of results are produced. In terms of our work, educational or practitioner enquiry is another descriptor for the research we do. It is essential that it is practice based and aims to enhance the learning of our students, rather than merely collect information. Action research depends on working with other people to discuss, plan, test, retry, ensure validity, and so on. It is research related to our teaching and to our students.

What is of major importance in action research:

- The researcher and those being researched are in partnership. The aims, practices, strategies and findings of the research are shared at each stage.
- The research often aims to develop those researched through their involvement and through their subsequent reflection.

Action research tends to:

- use triangulation, that is, information is acquired through two or more research methods and strategies
- share the research and findings with colleagues who were helpful or formative comments, and share the research with participants, i.e.: students
- lend itself to reflection by researcher and researched
- feed into change.

The advantages of practitioner - based action research:

- It is *based* in practice and thus avoids the problem of needing to be 'implemented'
- It enhances morale (individual and collective), because it encourages practitioners to recollect and use their strengths
- It uses validity criteria and validation processes based on involvement in the practices situation.

Action and research are two sides of the same coin. Academics are in an ideal position; on the one side they can create and advance knowledge in higher education on the basis of their concrete, practical experience; on the other side, they can actively improve practice on the basis of their 'grounded theory.' The ultimate aim should be to improve practice in a systematic way and, if warranted, to suggest and make changes to the environment, context or conditions in which that practice takes place. Assumptions: That people can learn and create knowledge on the basis of their concrete experience through observing and reflecting on that experience by forming abstract concepts and generalisations by testing the implications of these concepts in new situations, which will lead to new concrete experience and hence to the beginning of a new cycle.

Why choose action research to research student learning?

Conventional research styles minimise involvement between the researcher and the subjects of the research in an effort to maintain objectivity. Yet in doing so, this approach goes against what is understood as necessary for facilitating change. Action research, as a growing field of educational research, seeks to understand the issue at hand and simultaneously promote change for the better – and thus is of necessity different in nature to more 'scientific' methods.

Action research is particularly useful as a tool for finding out new things about situations that are already very familiar. When a problem arises in a situation you have been involved in for a long time, it is easy to come up with a ready explanation. More precisely, 'in order to keep life comfortable, we usually explain it in terms of external factors over which we have very little control, or in terms of the shortcomings of the people with whom we are working. Otherwise, the experience is a very uncomfortable one,' says Richard Winter, Professor of Education in Anglia Ruskin University's school of Community Health and Social Studies. 'Action research is a particular form of inquiry designed for people to learn from the process of engaging in their work. That's why it's both enquiry and action. It's learning by doing in a very particular, organised way.'

The problem about trying to understand better the particular situation you are involved in – for example, teaching a particular type of class or type of content at Anglia Ruskin University – is that you are working with very small numbers (relatively in a research sense). You could send out a questionnaire to your students, but since you're very familiar with the situation and since the numbers are relatively small, the numerical distribution of the answers is likely to be fairly predictable. What you need to do in order to learn something new is to find new questions and action research is a form of inquiry that enables people to pinpoint new questions. It also involves a variety of research strategies and vehicles to enable you to get around your research object and question your 'population' (ie students). This use of several strategies and vehicles ('triangulation') gives us a fuller picture of the student learning experience.

What does action research involve?

The term *action research* was coined by Kurt Lewin in 1946 to describe a research process that involves a spiral of cycles of planning, acting, observing and reflecting. It works on the assumption that change is more readily achieved when those affected by the change are participants in the research. As a methodology it attempts to achieve understanding and to improve practice, by shifting from action to critical reflection and back again in a spiral process of refinement. As the research progresses, a better understanding emerges.

The researchers are accountable to the participants and the results of their collaborative enquiry are made public. The research contributes simultaneously to the solving of an existing problem or improvement of a problematic situation and to scientific knowledge.

A strength of action research is that because it is being undertaken by people who are familiar with the situation, they have a complex understanding of the possibilities. By starting out from the experience, you have the potential for more complex analysis. An outsider might have a powerful theoretical framework but in the end all theories are much simpler than the realities to which they refer.

Action research in education

Communication in an organisation normally takes place within a hierarchy, which means it is always limited by certain types of barriers. An action research project suspends that hierarchy and sets up a collaborative dialogue between, for example, teachers and students. As a teacher, you need to allow students as open an opportunity as possible to suggest ideas for what might be changed and what might be a good line of development. 'It is important to allow students to make as much input as possible. That's how you get new ideas,' says Prof Winter.

What is distinctive about action research is that, in a sense, you allow the students to set your research agenda. There are a number of ways to encourage your students to contribute their ideas:

- **Tape recorded interviews**

These should not be on a one-to-one basis because of the need to minimise the power differential. A group of up to five students is a good size. You set them off on a set of initial questions and then allow them to spark ideas off each other. You might even withdraw from the conversation, returning in half an hour or so to collect the tape.

- **Questionnaires**

Ask your students to evaluate your course at the end. You could use that time to get them to write their response to a few very open-ended questions. Four or five questions on one side of an A4 page are ideal, with an option for them to continue over the page if needed.

The type of questions you could use in a questionnaire are:

What do you think of...?

Describe your experiences of...?

What was good about...?

What was bad about...?

'You want to collect as much rich detail from people's experience of your work as possible because it's from the details of that experience that something new is going to strike you,' Prof Winter says. 'So the way you analyse the data when you've collected it in this way is not to count it and ask, what does the majority think? You ask, what is there in all this that is surprising to me, that I haven't thought of before, and which seems to suggest a fruitful line of thought?'

This involves a teacher focusing on helping his or her students to improve the quality of their learning. Professionals study their own teaching, gathering and interpreting data in one area of their teaching that they are concerned about in order to better understand the problem. The aim is to explore how teaching affects student learning and to gather and use evidence to improve their learning. In doing so, teachers are encouraged to observe their own practice and improve it rather than look to other professionals as a model on which to

base their own methods. Their students are simultaneously encouraged to take responsibility for their own learning.

Involving teachers in research into effective teaching strategies is a logical step. The concern as to how a teacher can improve the quality of their students' learning essentially breaks down into four questions:

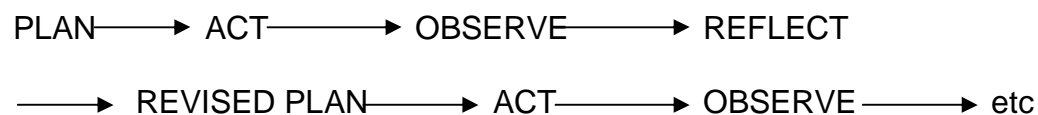
1. What area of my teaching am I concerned about?
2. What action will I take regarding this?
3. What evidence do I need to gather to analyse this action?
4. How do I validate this?

The spiral essentially follows the following pattern:

- A problem area is identified and an understanding of this is developed. Details of an interventionary strategy are worked out.
- The strategy is activated and observed.
- Details of these observations are collated.
- The strategy of intervention is revised, based on observations of the efficacy of the preliminary intervention, and the cycle is repeated.

A distinguishing characteristic is that all participants are empowered in the process in that they are knowingly involved without being controlled or pre-empted. Participants include the students, teachers and researchers; they analyse the research data to gain meaning and to contribute to the choice of intervention. Communication is highly important, therefore, and especially the free flow of information among everyone involved.

The action research process



How is this different from practice? Essentially it isn't. It is based in practice but it requires a more explicit examination of:

- decisions
- relationships
- the knowledge base for decisions
- the critical interpretation of evidence/data
- the learning that can be derived from practice.

Resources for reflection within practitioner action research:

- collaborative working with clients (challenging power relationships) and colleagues (challenging personal assumptions)
- awareness of emotions – one's own and others'
- evaluation of dilemmas within value commitments

- drawing together the implications of varied bodies of knowledge (theory, research, law and regulations)
- comparison between current and previous experience.

In other words, critical analysis – that is, awareness of a varied context and its contradictions, leading to a sense of alternative possibilities both in practice and in one’s understanding of practice.

In this sense, the basis for action research is similar to the basis for the role of the reflective professional practitioner. This in turn suggests a form of research that is best undertaken by the practitioners themselves.

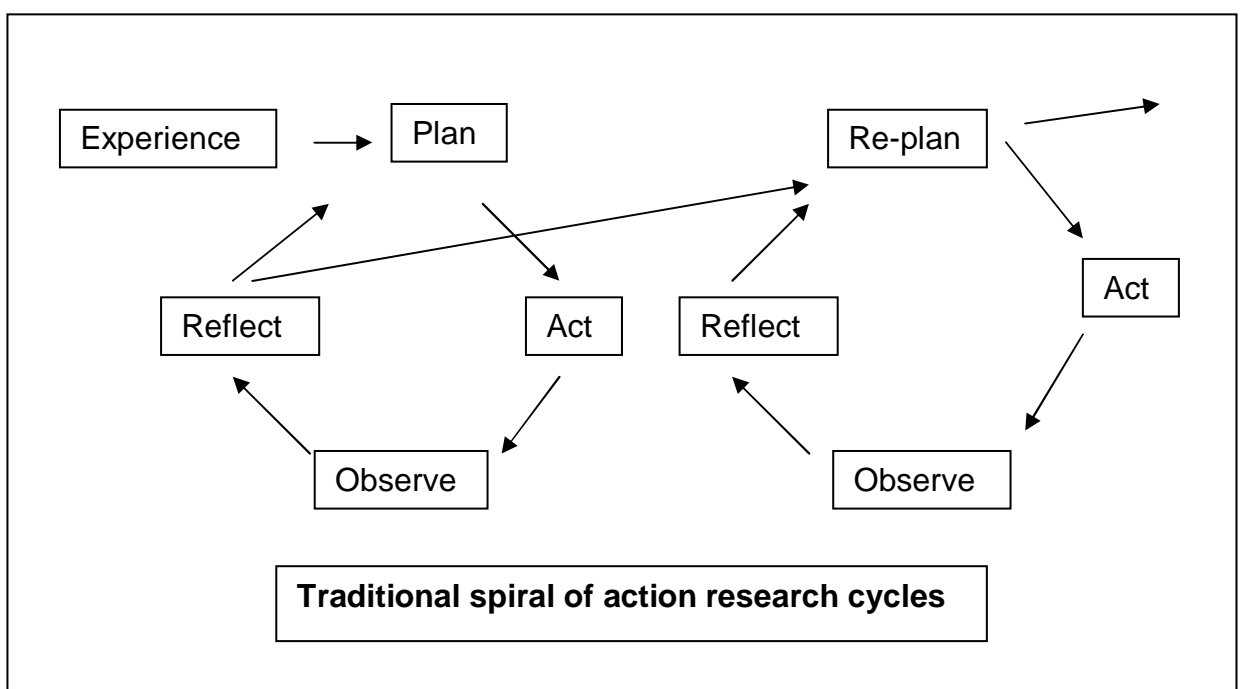
Action research is not only a possible alternative to advancing knowledge in higher education; it is also a more effective and immediate way of improving learning and teaching practice.

(Ortun Zuber Skerritt: *Action Research in Higher Education*, 1992)

Action and research are two sides of the same coin.

Academics are in an ideal position; on the one hand they can create and advance knowledge in higher education on the basis of their concrete, practical experience; on the other, they can actively improve practice on the basis of their grounded theory. The ultimate aim should be to improve practice in a systematic way and, if warranted, to suggest and make changes to the environment, context or conditions in which that practice takes place.

Assumptions behind action research: People can learn and create knowledge on the basis of their concrete experience, through observing and reflecting on that experience by forming abstract concepts and generalisations. This is done by testing the implications of these concepts in situations which will lead to new, concrete experience and hence to the beginning of a new cycle:



Ethics

There are a number of ethical issues inherent in action research such as the need for:

- strict confidentiality
- obtaining the approval and consent of the participants and the relevant authorities
- obtaining permission to view relevant documents
- seeking to involve those who will be affected by the outcome respecting the wishes of those who choose not to participate
- making the results available for comment.

At Anglia Ruskin University, your research will need to be approved by the Ethics committee.

Potential difficulties with action research

The research has a number of inherent pitfalls, including the following:

- when the researchers should stop the spiral of research
- how many people to involve
- motivating students to fill in questionnaires and take part in focus groups
- researchers may have little control over the process chosen – this can be problematic if the students are not very motivated and do not see the benefits of the research
- how to collect the products of the research – relying on students to hand in RoLIs, etc.
- students losing motivation to continue involvement with the research
- students may need to be ‘bribed’ with food and drink to turn up for focus groups
- difficulty in getting together people who are busy and thus short of time
- all of the above affect the validity of the results.

Criticism of action research

Action research has been criticised as failing to further any understanding of how learning actually occurs in the classroom. It has been viewed as poor in quality, atheoretical and lacking in systematic methodology.

It has also been disparaged as ‘easy hobby games for little engineers’ (Hodgkinson, 1957 in Cohen and Manion, 2000, p.226). Educational action research has been labelled ‘inward looking and ahistorical’ and of poor quality (Adelman, 1989 in Robson, 1993, p.440).

Examples of research into student learning to underpin teaching at Anglia Ruskin University:

PhD student learning – Gina Wisker, Gillian Robinson and Vernon Trafford

UCLT at Anglia Ruskin University is running a project to improve the supervision and learning of postgraduate students in the UK and Israel. The aim of the research is to pinpoint strategies to avoid or overcome dissonance (a clash between learning approaches and learning outcomes) that causes potentially significant difficulties for students at different stages in their research. These are mainly:

- developing a proposal
- deciding research methodologies/methods
- undertaking research
- developing and maintaining links between findings, analysis and transformative conclusions
- writing up and [defending] (in a viva) a thesis which has a clear conceptual framework running throughout.

The methods used included RoLIs (Research as Learning Inventory, Meyer, 1997), Research as Learning Questionnaire (Wisker, 1998), focus groups and taped supervisory dialogues. The research was conducted at three distinct stages in the students' PhD research:

- research proposal development
- progress report write-up
- writing up and preparation for viva.

At the start of the programme in 1997, Gina Wisker (UCLT) and Gillian Robinson (Education) spotted a potential problem: many of their PhD students idealistically aimed to change the world (transformative outcome) with their work but took an accumulative approach to their research.

Gina and Gill were working with the first cohort of Israeli PhD students. Subsequently, Vernon Trafford (CORE) joined them. Gina, Gill and Vernon then decided to use research into these postgraduates' learning to feed back to the students to aid reflection and development, *and* to inform developments in the research support programme. The researchers encouraged the students to consider whether their methods would fit in with their aims, and whether they thought their intended outcomes were reasonable. They used RoLIs and analysed the results, which revealed dissonance among a small subset. After holding a group evaluation, the researchers introduced focus groups and workshops in a summer programme, providing the data from the questionnaires and getting the students to reflect on what it meant. They reflected on their own practice and acted on their own methods, analysis and thesis production. Rather than being prescribed what to do, the students took ownership of the research and their learning through the action research process.

The 3 stage research development programme is now accompanied throughout by action research to support student learning. Gill, Gina and Vernon have delivered at conferences and published on their work regularly. They have also found that the same kinds of dissonance exist in individual UK PhD students. They have worked on Anglia Ruskin University's own research development programme and with postgraduate subject related groups to identify with the students both potential problems and successful research as learning strategies in order to better enable the students' success in their PhD work.

Example

From the 1998 Israeli PhD cohort six students were identified who were taking potentially dissonant approaches to their research as learning in relation to the outcomes they sought. They were taking largely accumulative approaches (relying heavily on questionnaires and accumulation of facts) but sought transformational research outcomes (changing attitudes and behaviours). We felt that the dissonance, identified through the Reflections on Learning inventory could hamper them in their work.

Follow up focus groups, supervisory dialogues and explicit research methods sessions on the research development programme helped these and other students to identify a range of research methods more suited a) to meaningful and deep learning and b) where appropriate, to the possible achievement of transformational research outcomes.

Supervisory dialogue analysis using Nvivo (a computer package which tracks themes) suggested that changes and development in approaches and research, methods have enabled students to overcome dissonance and in some cases to achieve their PhD (some are still doing the research...).

Working with a range of PhD students has enabled us to identify supervisory dialogue interactions and themes, and to recognise where different interactions are helpful in, for example, encouraging students to develop research proposals or maintain momentum with their work, or to prepare for their PhD vivas.

Example

Focus group and individual interview work with the English PhD study group has helped us to identify interactions useful to support students towards their viva, ranging from informing and prescribing to supporting, clarifying and eliciting, and collegial exchanges (as equals).

Subject related learning research: social work – Mary Watkins

Why research students' learning?

Since becoming involved in social work education, my main interest has been how people learn professional practice. I'm more interested in knowing how my students actually learn rather than the teaching process itself, though obviously this research will affect how I teach.

Research project

Three years ago I became involved in Gina Wisker's interdisciplinary project, (Discipline/subject research group – new ILT funded) which involves exploring perceptions of student learning in different disciplines at Anglia Ruskin University.

Research methods used

I began this research work by asking my tutor group – of first year Diploma in Social Work students – if they would talk to me in the first semester about their learning experiences. The first thing we gave them was a RoLI questionnaire (Reflections on Learning Inventory,¹ which is analysed using SPSS²) to complete, which we then analysed. Their second task was to talk about their perceptions of becoming a professional practitioner in social work and how their learning met those perceptions. This was done in focus groups which were taped, transcribed and analysed using Nvivo.³

They discussed what they understood social work to be and what they found most helpful in meeting what they perceived their learning needs to be. We compared their statements with the analysed responses to the RoLI questionnaire. We then looked at their end of year marks to see whether any links could be made between the RoLI analysis of their learning style, what they thought they were engaged in and the outcomes.

What we found

There were some interesting links between people's expectations of what the course would offer them, their perceptions of the amount of time that would be devoted to study and their results.

Example – study expectations

One example that I recall was an academically able young man who had narrowly missed a first in his undergraduate degree. He thought the workload on the qualifying social work course was unreasonably heavy, given that most of the students had to work to earn a living and to pay their fees – and it was nothing like he'd had to engage in, in his first degree. His view was disagreed with by some of the mature students.

He graduated with a perfectly respectable 2.2 result but you could argue that this was lower than his potential and reflected his expectations of the workload and his having to work.

Rethinking our methods

I then repeated this process with second year students but this time we're following it up in their final semester and getting them to reflect on their learning. I have engaged additional tutors to tackle this in part.

Research challenges

An issue the tutors have brought up is they feel rather uncertain about the role of the focus groups or rather, students meeting as a group. We call them focus groups but in our experience it is best if they take the form of semi-structured interviews. There's a general feeling that the students are being asked too many questions and each member of the group isn't given enough opportunity to respond.

A difficulty I am having is analysing what this data actually means. Another is being clear about our methodology and what our research questions are.

Positive results

Expectations

The issue raised of expectations has made us become much more explicit about our expectations of the amount of time our students should devote to their studies – like attendance, for example. There is a very clear link between students not attending tutorials or seminars and those who don't achieve academically. Obviously one would hope that there was a link, but the implication is that those students don't consider that what we are doing is relevant to them passing their assignments, and this is a problem. If people attend a session, which does not seem to meet one of their learning outcomes, they tend to feel their time could be better spent working towards their assignment.

So now I try to do that linking more explicitly. I tell them that if they participate in this session it will help them address particular aspects of their assignments. This has increased attendance in some areas, but unfortunately it tends to be after they have had the experience of failing! It is indicative of a problem if students feel that sessions are not sufficiently focussed for them.

Teaching and learning styles

Despite having had some reservations about the methodology and how it fits in with the RoLI questionnaires, the tutors have got quite a lot out of talking to the students – and in turn, the students have appreciated being asked about their experience of learning. It's given us considerable feedback in terms of how differently students value different types of teaching.

Example – learning styles

Some members of a group might state that it likes the teaching style of a lecturer who gives a pretty straight lecture with good handouts – and “we’re told what to think.” Other students may regard this as the worst kind of learning and say that what they appreciate is being given a problem to solve and getting together to sort it out. They may feel that’s what they came for, and believed they would be doing much more of this. This is, of course, a reflection of the range of different learning styles, which is tied up with people’s prior experience of learning.

My impression is that those tutors who have taken part in the process have found it interesting and worthwhile. On an individual basis, they may have modified their approaches to teaching as a result of the students’ feedback. We have yet to document this in any detail.

The students do value being asked about their perceptions and welcome the opportunity to reflect on their learning. They frequently express surprise at how much they have learned and how they have changed.

What has been particularly interesting in the focus group transcripts is the differences of opinions expressed. What also strikes me is how much they reflect the style and personality of the person who is facilitating that group – the tutor – and how much people bring in to the sessions from their prior experience.

Student-directed teaching

We’ve discovered yet again that different people find different forms of teaching helpful but in general social work students value most the learning gained when they are involved in directing their own learning. This can be selecting a particular elective in a particular client group, working in a group towards a presentation or being allowed to pursue a particular topic independently. My work to date supports the view that students would value even more student-directed teaching than they receive at present. I think that students particularly value the opportunity to explore, and they welcome any kind of activity that involves a more freed-up style of learning.

One format would be an inquiry-based learning (IBL) approach, starting from issues, problems or scenarios, and we are doing that in our new degree. We have decided that we will adopt an IBL approach for the first semester, and this involves getting students into self-directed learning habits early on.

Example

In this department (to generalise) we can get some younger students who can be a bit starry-eyed about wanting to help people – and then there are those who come from a number of years of practice and perhaps have become a little world weary. All of them need to be offered the opportunity to re visit their preconceptions about social work. On one particular occasion I had a pile of newspapers with articles on a local case – prospective adoptive parents and their fostered children. Social workers wanted to remove the children from the couple, and this prompted the family to go on the run. The students looked at the underpinning views and values that were encapsulated in the newspaper articles and they produced some excellent material. It got them thinking not only about how people are portrayed in the media but how they inevitably inherit some of these attitudes when they go into agencies – and how they feel about that. They were able to see the various conflicting roles assigned to social workers by society and how this was reflected in the coverage.

Taking the research further

The research has got me thinking about putting together a pack of frameworks, instruments and questionnaires for busy teaching staff, essentially a template they could use to research their teaching. Other issues that have come up are:

- I'd like to pursue a systematic follow-through of the people who fail and the reasons why.
- I'd like to take a systematic look at the studies that have been done on the routes that students come up through and how that relates to their progress and see whether we are acting on what we know.
- I need to do a proper evaluation of the inquiry-based learning semester – whether or not it is successful, and how do we define what is successful?

References and notes:

¹ RoLI – Research as Learning Inventory, Meyer & Boulton-Lewis, 1997

² NVivo – a computer package for thematic analysis

³ SPSS – a computer package for analysis of statistics and frequencies of responses.

Supporting International Postgraduates: Sylvia Griffiths

Why research students' learning?

I started researching student learning about five years ago. Until Anglia Ruskin University's University Centre for Learning and Teaching was set up there hadn't really been much encouragement for this, so it's been marvellous. For the first time I'm thinking about my teaching and getting some support. I really do feel the most useful research is into students' learning.

The reason I started this research is because I wanted to improve my teaching and teach in the most effective way. I teach English reading and vocabulary acquisition at pre-undergraduate level and to first, second and third-year students. The key skills for international students are reading and vocabulary acquisition. Students vary in the amount that they learn and I was curious about what they were interested in – whether it was the subject material, their colleagues or something else, and wanted to investigate this. I also wanted students to have more say in what they were learning because I thought they would then improve their learning and be more motivated.

Value of this research

It helps you to think about what you are doing in the classroom, not wasting students' time and trying to do things that will help them learn better. If they've got limited time, we've got to make the most use of it.

Research projects

I have been involved in a number of research projects, which are outlined here.

Researching teaching

To research students' views of our teaching, we use 'quality' questionnaires, which are not really well devised in that we hand out the questionnaire on one sheet of paper to all of the participating students and they tick their answers in front of each other. They get to see each other's responses, so this isn't a good way of doing things.

Findings

Interestingly, no group has given my teaching the same rating, although at the time my teaching and the material I used was consistent. This was before I started using different methods with different classes, so I suspect they must have affected each others' responses. It may have had something to do with time of day but I think it was more to do with who was in the class with them. Also, teachers respond to their students' personalities. You'd get a buzz from one group, whereas another group might perhaps be a bit hostile to each other for some reason.

Researching methods of learning

I investigated differences in learning effectiveness according to method of learning. To find out how much work the students did outside the classroom and what sort of exercises they liked doing – essentially their style of learning

– I mostly used my own questionnaires. One of the things I was looking at was whether they liked team games and the competitive aspect. With two particular groups that were doing the same module, instead of conventionally testing their vocabulary I divided them into teams and found they liked that element of competition.

Findings

What I've discovered is that

- students' learning has partly to do with my method – as to whether a group prefers the method or not – and also partly to do with how they got on with people in their class
- competitive learning suits particularly those students who are very ambitious, competitive and hardworking. There could be group dynamics problems with lazy students, so that's something to consider
- students generally like tests – they like to know how they are progressing. It's only fair to them that they know what they are going to face at the end, and to give them practice in doing it. The testing is for their benefit, and also for mine, to see what aspects they haven't learnt
- cultural clashes and intolerance can affect learning in the classroom.

Modifications made

I've introduced more progress tests and use different methods. Testing doesn't just have to be on the individual level. It can be a team effort and it can be fun. The popularity of quiz programmes has made me think that perhaps we ought to use game theory and gaming much more in the classroom. I do it quite regularly – I think my subject lends itself to that. Once you get into upper intermediate level, then the main area of learning is not grammar structures but vocabulary, and that's what they need to succeed in their degrees. It's all about paraphrasing for which you need a big vocabulary, as well as reading quickly and understanding. So that's what I'm trying to do – give them those transferable skills, which they will be using all through their lives.

Apart from this, I have some research time to look at the learning they do outside the classroom, particularly in reading. I've just had a two-hour lesson with seven students and half of them hadn't done the homework I set them which made the lesson very difficult because you can't move on as fast. That's one of the key things in teaching – reading. Again, the good students read and get better. It ruins your lessons when students don't do the required reading and it frustrates everybody. This is linked to attendance as well, which we don't seem to be able to enforce.

I've tried to get some of the weaker students and the students whose culture make them quiet and passive to integrate more with the other students. Sometimes I have a word with the other students who respond that they do want to get to know the quieter students. Also, I've found that the material you use can help the students respect each other. For instance, a student from Jordan gave a presentation on the Muslim banking system, which was very interesting. The German students appreciated that and his status in the class rose.

To overcome the problem of non-attendance, I try to include in the assignment things that we've done in class, so that they realise it's going to be set. In this way, the classes become assessment dominated.

Postgraduate research

My postgraduate research involves investigating how to improve the benefits that students with weak English skills derive from language support. I think that when they are paying a lot of money, they deserve to have this learning support to prevent their failing the first year, having spent thousands of pounds. We have many students whose ability in English is weak or who are struggling because of language difficulties – and we are asking such a lot of them.

A problem is they often don't have time for language support classes because of working full or part time and doing long hours. A 20-credit module involves nine hours a week of teaching time; you can try this on top of a full-time job but you can't do proper full-time studying. They are struggling and it's getting worse due to the financial aspect – the cost of living, more than anything else.

Findings

I've discovered these students don't actually benefit much unless the language support class is credit rated. If it's voluntary, as the term progresses they get burdened with assignments and have less time to do what they perceive as extra things. As a result they are not willing to do anything that isn't directly related to success in their assignments. They realise they need language support but they don't really see that the time they spend in these classes is as valuable as time spent doing their assignments. Language support has to be credit rated and it has to support their assignment, to be placed in context. It also needs to be individualised because everybody has different problems. What they particularly need is correction of their writing.

Modifications made

As a result of this postgraduate research, we're introducing a credit rated compulsory module for students whose English is weak, in order to support their other subjects. Students whose English isn't weak will hopefully be given the opportunity to study another language. This was decided by the MA course team and it's a great support. There's a growing awareness that the University has to take such steps.

Research challenges

High marks

A problem I should mention is that as you get better at teaching and your students get better at learning, there is a danger of them earning marks that are too high. It would be frowned upon if your students did too well as they can't all get over 70%. That's a real problem and I don't really know what to do about it. It's very difficult with reading and vocabulary skills in that it's a bit like maths where you can get high marks. You test them on what they've done and if they are good students they should do very well and get three quarters

of it right. You've got to aim for a 55% average, which means you have to put in something that is practically impossible to answer in order to keep the marks down.

Part-time staff

A lot of the EFL (English as a Foreign Language) staff are part-timers and they are very talented but also extremely busy, so it's difficult to get them to come in to discuss their teaching.

Value of research

There are many areas for research and I think it's great the University is taking this so seriously and investing so much in it, in recognition of what we're doing. UCLT provides the only recognition we've had so far of the importance of looking at what's going on in the classroom. To some extent that's the least talked and thought about. You're always going to meetings but you're very rarely talking about the actual teaching and learning.

Comments

I think I'm much better at understanding how the students learn than I was five years ago, partly as a result of my research.

I wish I'd got more support earlier on. I was often working in the dark and felt unappreciated. What I like doing most, teaching and learning, was the least valued while clerical and administrative duties were very much the focus.

I would advise other staff to get into researching their student learning. You benefit in that it makes things more interesting and you could get better results.

What kind of support is offered by UCLT for research into student learning?

Enabling high quality student learning is the key aim of Anglia Ruskin University. Empowering students as reflective and active collaborators in the learning research carried throughout the university is one important way in which we work with staff and students to facilitate and support that high quality learning. This support relates to work on the continuum of study programmes to suit students entering from access courses, from local schools as well as others across the UK and internationally, who are studying as undergraduates. The continuum also includes a range of students who are professional practitioners undertaking post experience, postgraduate study

The University Centre for Learning and Teaching, formally established in 2000 and building on its previous incarnation as CED, is the hub (but not the only vehicle) of these research activities. Ongoing student learning research is also carried out at Anglia Ruskin University by several key players around the university. They include Prof. Richard Winter (CHSS), colleagues researching nursing students' learning in inquiry-based curricula, as well as colleagues in Education, Business School and Sociology. There is also the Regional Office through the four counties widening participation project, and the English-based 'speakwrite' (FDTL) project which aims to improve students' writing and articulation skills.

Additionally, many individual staff carry out research into their own students' learning, often in the non-funded, adhoc way that Sylvia Griffiths has described. The more we know about how our students learn and the more we involve the students in this research into learning the more we work collaboratively to improve the student learning and student learning outcomes. It's also enjoyable for us.

Examples of UCLT research activities – enabling change and promoting quality in learning and teaching.

ESF – Empower

UCLT has been awarded an ESF (European Social Fund) grant to run Empower, a project working with disadvantaged women to help them to identify and overcome barriers to learning. Project workers will be supporting and enabling participants to develop their self confidence and the study skills necessary for successful study on a range of appropriate courses, including the university's 'experience' course worth 10 credits at undergraduate level, gender studies modules and the European Computer Driving Licence, among others. The ultimate aim is to enable participants to build self-esteem and to gain qualifications, which would better equip them for success in employment.

Our research on this project, launched in September 2001, is closely linked with the provision of development and teaching/tutoring as well as individualised support for learners. We plan initially to work with women in

refuges to carry out action research to assess their current skills, learning needs and barriers to learning.

The research work then continues alongside an induction process and the involvement of the participants in learning programmes. This research will involve the use of questionnaires, skills audits, focus groups to support and monitor ongoing learning and reflection, and individual interviews. It will be set in a framework, which intends to enable participants to identify and develop their learning skills. A small team of tutors, researchers and admin colleagues will work on the project.

History and Background

Such essential widening participation and learning skills research projects have a long history at Anglia Ruskin University. Anglia Ruskin University ran a large, thriving Access Course for five years, which attracted and facilitated the learning experience and achievement of a multicultural population, a high proportion of them women, and a number of students with a wide range of disabilities. We researched the learning of our students supported by a NIACE REPLAN grant, and published widely.

Subject-based, undergraduate learning styles action research

This project involves undertaking research to improve our knowledge of how, why and what students learn in different disciplines, and in comparison with other disciplines, in order to develop information about the relationship between teaching, learning and assessment, and the learning outcomes of the different disciplines. The aim of the research is to be able to feed back our findings into course development and monitoring and to use the results of the research to develop current teaching and learning practices. To date this has run for three years and has led to conference presentations nationally and internationally, and to publications. It has also led to changes in practice involving, for example, introducing problem-solving skills early in the curriculum (Law), focusing on and encouraging motivation and social ethics (Social Work), and developing students' reflective and metacognitive states (their awareness of themselves as learners), which leads to deeper, more useful and more meaningful learning.

Colleagues from: English, Social Work, Communications, Biology, History, Law, Gender Studies, Business and Education are now involved and our work is linked to a phase 2 [ESPC] project, run out of Edinburgh, Durham and Coventry Universities.

Postgraduate student learning

As Anglia Ruskin University increases its number of PhD, Mphil and Ed D students, we are researching:

- learning strategies and approaches of postgraduates
- how support programmes enable them in their learning
- the role and effect of supervisory relationships on postgraduate learning.

To date, we have largely worked with Israeli PhD students and Anglia Ruskin University's UK-based students, the number of which grows steadily.

International postgraduates

This project, now in its second year, aims to identify and support the subject-related language skills or 'tertiary literacy' of international postgraduates. It includes focus groups, the provision of the CD Rom, 'Excel at Academic English' and subject related language work with International postgraduates.

Researching our teaching

This new project involves action research on the links between effective teaching and learning.

International student learning

This project builds on established international research and our own experiences, as teachers and facilitators, of learning to investigate what defines good, effective teaching, and the link between effective teaching and effective student learning in the context of contemporary higher education, with particular reference to working with international students.

Fellowships and research

The research work is not free-standing. It is an absolutely integral part of UCLT's support for students and staff in their learning, teaching and assessment experiences. We run as a group of half-time senior or principal lecturers seconded to UCLT and led by the director, with a large group of staff from all schools (Business, Law, both Health schools, Arts and Letters, Languages and Social Sciences, Education, Applied Sciences, Design and Communication Studies and our regional partner colleges). These staff are involved in small fellowships which involve developments, tackling learning and teaching problems, and innovations. Many of these include an element of research into students' learning. The fellowships are often also a group venture.

Learning and Teaching fellowships and research

The Learning and Teaching fellowship scheme builds on a previous fellowship scheme and has been operating since March 2000. Many of the Learning and Teaching fellowships include development, addressing problems, trying out innovations and embedding good practice in the repertoire of learning, teaching and assessment activities with which practitioners are involved. Many use research into student learning as a basis for this work, researching problems and strategies, student learning, student learning response to development, innovations and evaluating the effectiveness of developments in terms of student satisfaction, and quality in student learning. Colleagues use questionnaires, focus groups, one-to-one interviews and a variety of documentary, video and audio evidence plus reflective journals and comments to focus on and identify what contributes to a quality student learning experience and quality learning outcomes.

Principal teaching fellowships and Senior teaching fellowships

These last for one to three years and are half time in UCLT at PL level. STFs and PTFs are appointed for (a) their proven high quality in enabling student learning and (b) their design of and ability to take forward a learning and teaching development project.

Fellowships are announced and appointed twice yearly (February for March take up; June for September take up). Recent fellowships have included researching the learning and the effectiveness of UCLT support for 'tertiary literacy' of the Masters in International Business students, student feedback, extending the language programme into distance learning, the effective use of learning outcomes, e-learning developments using WebCT, CD Roms, Open and Distance Learning – and their enabling of students' quality learning, at all levels, in a changing climate of lifelong learning.

The learning continuum is our focus and our research work is always collaborative – engaging, enabling and facilitating student learning.

Workshops and fellowships

Workshops are offered on:

1. Using research into student learning to underpin teaching practices
2. Action research
3. Bidding for research funding

See *Bulletin*, the Intranet, our newsletter *Networks* and the yearly information 'purple book' for details.

Some research vehicles and tips on using them

- Questionnaires on student learning
- How to run a focus group

Questionnaires on student learning

There are several established questionnaires or [inventories] which can be used to find out about the variety of learning styles and approaches taken by our students. The ASI (Approaches to Study Inventory; Biggs), the Honey & Mumford Learning Styles Questionnaire, and Meyer and Boulton-Lewis' "Reflections on Learning Inventory," each yield such information.

If you decide to use a questionnaire with your students, this might be useful advice:

Designing and using questionnaires

You might well decide to develop your own questionnaire to find out more about student learning. Questionnaires gather information directly by asking people questions and using them as data for analysis. They are often used to gather information about attitudes, behaviours, activities, responses to events and usually consist of a list of written questions. Respondents can complete questionnaires in timed circumstances, by post, or by responding to researchers directly who, armed with the questionnaire can actually *ask* them the questions directly. Its a method of gathering large numbers of responses although the response rates are quite frequently not high because so many people become rather irritated by questionnaires and refuse to fill them out. You need to ensure that your questionnaire is perfect when you use it with your sample, so it is important to take advice, pilot questions thoroughly and then use the questionnaire with your samples. It is not usually possible to return to the sample with a further developed version of a questionnaire not least because having completed it once they will not be able to respond in a natural and genuine manner.

You need to ensure that your questionnaire is:

- Kept confidential
- Trialled and piloted and refined
- Really able to ask the questions you want
- It needs to avoid ambiguities and multiple questions, ensure that the questions are entirely clear.

When setting out a questionnaire you need to:

- Clear the use of it with your sponsor or whoever is allowing you to use it
- Ensure you can code up the questions after the response has been collected so that you can analyse the data. Yes/no and Lickert scale type questions (on a range of 1-5, where for example 1 = strongly agree and 5

= strongly disagree) are easier to code up. While open-ended questions produce fuller responses, you will need to have an idea of the trends for which you are looking and to develop a code to deal with expected areas of answers so that when the open ended question responses come in, you can code them up. The coding is so that you can handle the amount of data and carry out some statistical analysis since questionnaires are most often used to suggest the response of a significant number of people in terms of percentage and proportions.

When sending out questionnaires you need to:

- Explain what the purpose is and guarantee confidentiality
- Explain who the sponsor is/who it is for
- Provide a return address and a time for the return (if it is posted)
- Explain that the responses are voluntary
- Thank the respondents for their time in completing the questionnaire.

Layout

This is a complicated science! Questionnaires should not be too long or they will get a lower response rate because people become bored and irritated and fail to complete them. Use single sided paper and quality production, do not crowd the questionnaire, try not to repeat questions too often, although this is useful for cross checking (it irritates respondents):

- Number your pages as well as your questions.
- Whatever kind of questions you pose you need to put a coding box into the questionnaire probably on the right hand side so that you can code up the responses when you have gathered all the questions together. Make sure this is an integral part of the questionnaire as you develop and then pilot and print it, or there is a lot of tedious work to inscribe boxes and code them afterwards.
- Make sure your questions are very clear and unambiguous. Respondents should be willing and able to answer the questions so that they are properly targeted, not insulting, not vague, and avoid unnecessary assumptions.
- If you provide consistent kinds of questions with a consistent scale, for example, 1-4 your respondents will be more able to focus on the questions without worrying about the format. They are also more likely to coast along on the columns ticking the same response for several questions, so beware of and spot respondent boredom.
- Do start with the most simple and obvious questions at the beginning and become more complicated if necessary as the questionnaire proceeds. This keeps your respondent with you and does not confuse them at the start.

Examples of kinds of questions:

(A) Closed questions – these are easier to code:

1. Yes/no answers:

Q. Have you travelled abroad in the last year?

A. Yes/no

2. Agree/disagree answers:

Please indicate whether you agree or disagree with the following statements:

Q. Travel by plane is always preferable to travel by land

A. Agree/disagree

3. Choosing from options:

Please indicate your chosen option by circling the item which relates to your choice:

Q. Which country do you feel has the best provision for holidaymakers?

A. Cyprus Spain France Italy Australia USA

4. Putting items in order:

Please place the following items of food in order of your choice placing 1 for the most preferred and so on down to 6 as the least preferred:

Paella Lasagne Spaghetti Fish and Chips Moussaka Chilli Con Carne

5. Rating responses

Please rate the following responses on a scale of 1 to 5 where 1 is strongly agree and 5 is strongly disagree:

Strongly Agree - Strongly Disagree

- | | |
|---|-----------|
| a) Housework is a natural activity for women: | 1 2 3 4 5 |
| b) Domestic work should be shared by all members of the family: | 1 2 3 4 5 |
| c) It is quite normal for women to be involved in paid work outside the home: | 1 2 3 4 5 |
| d) The man of the house ought to earn more than the woman for paid work outside the home: | 1 2 3 4 5 |

(B) Open-ended questions

6. The relatively simple answer:

Q. What has been your preferred module this year?

A.

7. The longer, more complex, more varied answer:

Q. For what reasons has this been your preferred module?

A.....

.....

Question types 6 and 7 will also need coding or there is no way in a long questionnaire that you can draw any conclusions and sum anything up.

Once you have gathered in and labelled up your questionnaires, coding them, removing those which are incomplete, you will need to analyse them. You can either do this by counting responses and coding the open ended response and quoting from them wherever appropriate. Alternatively or you can enter the coded and numerical responses into the computer using statistical packages such as SPSS which then work to produce a frequency analysis for you. The next stage in a frequency analysis is to ask the package to produce responses in relation to variables and to produce responses which relate variables. This is so that you could match up, for example, the frequency of holiday trips abroad and the frequency of which of those are to a particular country.

Task

Decide on a topic which is related to your research or one which is not, such as student responses to the facilities provided for postgraduates around the university campus. Draw up a questionnaire which has at least one question of each of the seven kinds illustrated above.

Consider how to word these questions very carefully and which ones would be better as closed choices, or open choices, on a scale, yes /no and so on. Defend your reasons for those choices. Try the questionnaire out on yourself or preferably on a friend/colleagues/relative. And ask them:

- Can you actually answer these questions? Are they clear? Ambiguous? Leading? Insulting? Irrelevant?
- Do you think they enable the researcher to approach information on their object of study? Are some of the questions not going to be helpful because the wrong questions were asked?
- How would you code up, analyse and then present the data?

As with interviewing you will soon discover that there are questions you employ that you cannot ask directly, such as those about personal hygiene, sexual relations, spending habits, bad habits. This is because people will not want to be entirely honest and will boast or lie to some extent. Some questionnaires are considered too insulting or awkward.

How to run a focus group

Focus groups can be a good way to capture the response of a small group of people. A selection of students/clients/interviewees meets several times over a period of time to give its response to a changing situation. In this way, the participants become familiar with the research, with yourself as a researcher, with the context and with each other. They feel valued because their views are being sought in relation to a development or change, and they often also change, becoming more self aware and reflective because of being involved in the focus group. This latter point could affect the kind of information you acquire, but could also be very developmental for those involved in the focus group.

If you decide to use focus groups, you need to follow guidelines:

- 1) Decide if it is open ended, semi-structured or structured. It is unlikely that a fully structured interview will work over time with a focus group because it is too closed. However, the use of some structured and clear questions in a schedule does help the group to stay on the point and to focus clearly and specifically. The main problem with a focus group is that like any other social group, it can dissolve into social discussion or go off the point, and it does need to be focused. If you are meeting the group over time, you will also need to prepare questions which match the developments over time, rather than asking the same questions or just letting them talk.
- 2) Take cultural context and difference into account in what you ask, where you ask it, how you ask it and how you respond.
- 3) Ensure you have a suitable method of recording the focus group interviews, such as a tape recorder in the middle of the table with the group clustered around. They will need to say their names when they speak, certainly until you are familiar with their voices (on the tape). Video taping the discussion is another option. Both methods could inhibit the group initially, but as a group they are more likely to ignore the methods after a few sentences and get on with the discussion and answering questions.

Focus groups need 'ground rules' such as:

- taking some responses in turn so that one person does not dominate
- prompting each other to speak
- being polite, as in conversation people tend to cut in on each other
- remembering to let the other person finish what they were saying (without cutting off the creative interaction that could lead to development, exploration and a higher level of thinking and articulating, as with group work with students).

Focus groups with undergraduates working on identifying how they learn and what teaching and learning activities enable them in their learning have, in the past, dissolved into a discussion about 'horrible' rooms, the modular system and how much they hate a particular subject. Other focus groups, nurtured and prompted to stick to the questions while developing their answers, have built up sensitive responses over time to the same set of questions and their belonging in the group has in itself caused these students to be more aware of how they learn – that is, it has developed their 'metacognitive' skills. If the focus group work is part of an action research project, this development of the students will be a very valuable product.

Focus groups have been used by market researchers and housing groups, people seeking responses to building and social changes, to media developments and so on – anything where the responses of a group interacting with each other can provide a rich sense of people shaping feelings. Because they are a group activity, they need managing in terms of group dynamics however – and there is a special value placed on the collective responses and views. In order to manage this, it is important to set the group up carefully and to agree ground rules about behaviour. Silence and dominance are two behaviours that could inhibit general discussion.

The researcher can act as a facilitator to the group and use triggers, prompts or specific questions to develop the discussion. One set of focus groups has revolved around the use of 'trigger tapes,' which are short video extracts, to prompt responses to areas in relation to discrimination and attitude. Managing these has helped to discover both attitudes and help attitudinal change. They can enable the more silent participants to say more because, as with other group activities, they are prompted by the contributions of others. They are better managed over non-sensitive issues but, as is suggested by the trigger tapes, they can also be used to gauge responses to sensitive issues. Set them up with clear channels of communication over time.

Disseminating and sharing our research into student learning

One of the ways in which we can share our findings about student learning arising from our research is to disseminate via conference presentations. Another is to publish. Discussion groups on the web provide a third other.

Anglia Ruskin University has several yearly conferences. You might like to present at the Learning and Teaching conferences in September or in January, or at UCLT workshops or school based workshops. The VC's conference and the Research conference are also good internal outlets for appropriate student learning research.

There are a number of local, national and international conferences at which to disseminate also. For ideas on presenting at conferences and publishing, see the UCLT publication *Sharing Your Work*.

Presentations at conferences

An important part of your work as a researcher of student learning is sharing and presenting your work in progress with others. Research is a contribution to knowledge and to ideas in the subject(s) and as a researcher you are part of a larger research community which shares its ideas and moves forward through that sharing. Additionally, sharing your work with others helps you to clarify, control and evaluate it. It also enables you to seek analytical responses from others and this can help you develop in your work. A well planned presentation of work in progress can provide immensely useful feedback to help you on in your research work and your teaching of students. Attending the presentations of others can enable you to stand back from your own work, advise them on points in theirs, and reflect on the ways which you can develop your own, illuminated by strategies others have adopted. Sharing your work in a research community is not about giving it away but about supportive, analytical critique for constructive purposes. If you decide to become involved in work-in-progress seminars, it is important to ensure that a structured, constructive response is part of the ground rules.

Getting your research into student learning and links between teaching and learning published

Your research into student learning and into teaching and learning is of interest to the learning and teaching community nationally and internationally. There are local Anglia Ruskin University outlets for this – the UCLT newsletter *Networks*, on the website, or further afield in newsletters and journals of your subject annotations and specialist areas, as well as learning and teaching publications, eg *Educational Developments* (SEDA newsletter), *Innovations in Education and Teaching International* (SEDA) journal – UCLT at Anglia Ruskin University edits it. There is also a host of journals including *Teaching in Higher Education*, *ILT journal*, *Active Learning* and so on.

You might like to contribute to a book, or to a collection of edited papers, or write your own book on learning and teaching areas. Consult the UCLT publication, *Sharing Your Work*.

Conclusion

There are many opportunities at Anglia Ruskin University for carrying out research into student learning to underpin teaching strategies and so support students in their learning. *Fellowships* contribute research, and we run several in-house research groups, consult the *Programme of Learning and Teaching Development Opportunities 2001-2002* and *Bulletin* as well as our website www.anglia.ac.uk/uclt/

For further information, we are happy to advise and support you wherever we can.

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REFERENCES

- Adelman, C and Elliott, J. (1975). *Classroom Action Research*. Centre for Applied Research in Education: Norwich.
- Biggs, J. (c1981). *The Process of Learning*. Prentice-Hall: London.
- Biggs, J.B. (1999). *Teaching for quality learning at university: what the student does*. Buckingham: Open University Press.
- Brookfield, S. (1986). *Understanding and Facilitating Adult Learning – a comprehensive analysis of principles and effective practices*. Open University Press: Milton Keynes.
- Brookfield, S. (1985). *Self-directed learning – from theory to practice*. Jossey-Bass Inc.
- Cohen, L, Manion, L and Morrison, K. (2000). *Research Methods in Education*. Routledge: London.
- Dewey Mann, R. (1970). *The College Classroom : conflict, change and learning*. John Wiley & Sons: New York.
- Evans, N. (1989). *The assessment of prior experiential learning and higher education*. Learning from Experience trust.

- Fry, J and Hall, J. (c1982). *An Invitation to Learning and Memory*. Allyn & Bacon: Massachusetts.
- Gordon, N. (1962). *The Revolution in Education (Sleep learning and its application)*. Sleeping Partner: Huddersfield.
- Griffin, J. (1979). *Behind the Goal*. Longman: London.
- Honey, P and Mumford, A. (1986). *Manual of Learning Styles*. Honey: Maidenhead.
- Kolb, D. (c1984). *Experiential Learning – experience as the source of learning and development*. Prentice-Hall: London.
- Lewin, K. (1947). *The Research Centre for Group Dynamics*. Beacon House: New York.
- Marton, F, Hounsell, D and Entwistle, N. (1984). *The Experience of Learning*. Scottish Academic Press: Edinburgh.
- Meyer, JFH. (1981). *Teaching Bread and Butter – a practical guide to effective teaching and learning*. McGraw-Hill: Johannesburg.
- Meyer, JFH and Boulton-Lewis, G. (1997). *Reflections on Learning Inventory*.
- Mezirow, J (1990) *Fostering Critical Reflection in Adulthood – a guide to transformative and emancipatory learning*. Jossey-Bass Publishers: San Francisco.
- Prosser, M. (1999). *Understanding Learning and Teaching: the experience in Higher Education*. Buckingham: Open University.
- Ramsden, P. (1980). *Independent Study*. Society for Research into Higher Education: Guildford.
- Robson, C. (1993). *Real World Research – a resource for social scientists and practitioner-researchers*. Blackwell: Oxford.
- Saljo, R. (1975). *Qualitative Differences in Learning as a Function of the Learner's Conception of the Task*. Goteborg.
- Schmeck, R. (c1988). *Learning Strategies and Learning Styles*. Plenum Press: New York.
- Schon, D. (c1983). *The Reflective Practitioner – how professionals think in action*. Basic Books: New York.
- Shanahan, M. (1997). *Australian Economics Education – learning and doing*. University of Adelaide: Adelaide.
- Winter, R. (1989). *Learning from Experience –principles and practice in action-research*. Falmer: London.
- Wisker, G. (2001). *The Postgraduate Research Handbook*. Macmillan: London.
- Zuber-Skerritt, O. (1992). *Action Research in Higher Education – examples and reflections*. Kogan Page: London.

Other References

1. Winter, R., personal correspondence, 2001
2. Creighton, E., personal correspondence, 2001
3. Wisker, G., personal discussion, 2001
4. Dick, R. (1999). *What is action research?* [online]. Available: <http://www.scu.edu.au/schools/gcm/ar/whatisar.html>. (April 2, 2001)
5. MacIsaac, D. (1996). [online]. Available: <http://www.physics.nau.edu/~danmac>. (April 2, 2001)