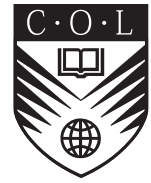


COMMONWEALTH *of* LEARNING



# PREST

Practitioner Research and  
Evaluation Skills Training in  
Open and Distance Learning

Mixed research methods



The PREST training resources aim to help open and distance learning practitioners develop and extend their research and evaluation skills. They can be used on a self-study basis or by training providers. The resources consist of two sets of materials: a six-module foundation course in research and evaluation skills and six handbooks in specific research areas of ODL. There is an accompanying user guide. A full list appears on the back cover.

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### Module A5: Mixed research methods

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# Mixed research methods



## Module overview

Welcome to Module A5 in the PREST programme. This module is about the use of mixed methods (quantitative and qualitative) in research and evaluation, in the context of open and distance learning.

Our overall aim in this module is to provide you with information, understanding, tools, skills and guidance on combining research methods in an informed way.

Why have a module on mixed methods? Other modules in this series have dealt separately with quantitative methods (A3) and qualitative methods (A4). However, a growing number of research and evaluation studies make use of mixed methods, that is, both quantitative and qualitative methods within a single study. Given that each of these approaches has its own strengths and limitations, combining them seems a good idea. It appears to offer a more comprehensive approach to finding answers to research questions, especially since many questions in open and distance learning are complex and cannot easily be answered using a single method.

But is this as straightforward as it sounds? Is it either possible (conceptually and practically) or effective to mix methods? Do different methods always complement one another or can the mix be a basis for confusion?

This module will aim to answer these and other questions about using mixed methods – and will no doubt raise even more questions! We don't claim to have all the answers but we can share our knowledge, experience, concerns and uncertainties with you as we struggle to understand 'mixed methods' and to apply the approach in our own research and evaluation work.

## About the authors

We are all practising researchers, currently working on research and evaluation projects. At the time of preparing this module, one of us (Rob Walker) is working on a project in India involving children acting as researchers in investigating their conceptions of the 'opposite of violence'. He is also evaluating a distance learning programme in effective writing skills being used by a number of UN agencies.

Christine Spratt is researching the influence of 'significant others' on the preparedness of academic staff to use technology in teaching. She is evaluating a major teaching and learning quality assurance initiative in an undergraduate programme in nursing and she is also studying the use of high fidelity simulation to prepare undergraduate nursing students for clinical practice.

The third author (Bernadette Robinson) is currently working on research projects in China: evaluating and costing ICT resources centres as a basis for school-based training in rural areas and co-directing an Action Research project in rural schools in China. She is also training Chinese co-researchers in the use of quantitative and qualitative research methods, since Western methods of research are not yet widely known or used in all parts of China.

In preparing this module, we have come to three conclusions:

- 1 mixed methods is a rapidly evolving field of study, conceptually and practically, so our module is about a field in progress
- 2 in research on open and distance learning, there is a shortage of well-reported studies of mixed methods (as well as a scarcity of good quality empirical studies overall). We had difficulties in finding a selection to use
- 3 mixed methods are used more often than reported. In those studies that have been reported, details of the methodology and process are often lacking, and the issues that arise from using them are often given little attention.

## About you

We hope that this module will encourage you to experiment with mixed methods in your research on open and distance learning. We hope too that you will report your research in ways that you yourself would have found helpful when studying this module, and in ways that others can learn from in terms of the methodology you used and the issues confronting you as researcher. Think of yourself as both a writer and a reader of your own report. There is more to learn about mixed methods than appears in this short module, but we hope we've given you enough useful references to enable you to follow up further if you want to.

## Aims of the module

The aims of this module are to:

- ▶ Explain what mixed methods are.
- ▶ Examine the issues involved in used mixed methods.
- ▶ Show how different research methods can be used in combination, and provide examples.
- ▶ Identify the problems and advantages in using them.

- ▶ Offer some practical guidelines for researchers.

## Module objectives

When you have worked through this module, you should be able to:

- 1 Present arguments for and against the use of mixed methods in research and evaluation.
- 2 Describe uses of mixed method approaches in research and evaluation on open and distance learning.
- 3 Plan the use of mixed methods in an informed way in your own research or evaluation projects.
- 4 Critically assess the use of mixed methods in studies that you read or in your own research.

## Module organisation

The module is structured into this introduction and four units, as follows.

This introduction: (1 hr)

Unit 1 What are mixed methods? (1.5 hrs)

Unit 2 Mixed methods in practice (8 hrs)

Unit 3 Mixed methods and case study research (6 hrs)

Unit 4 Mixed methods in evaluation and reporting (8 hrs)

Each unit is made up of the following components:

- ▶ an introductory paragraph or two that provide an overview of the unit, its focus and outcomes
- ▶ one or more activities for you to engage in, such as readings to complete and analyse, or questions to answer
- ▶ a commentary on these responses that takes you deeper into the topic by providing new information and suggesting further reading
- ▶ a unit summary
- ▶ feedback on your responses to the questions or issues raised in each activity.

You will need about 25 hours to work through the four units of this module.

## Resources

The following resources are used in this module:

Resource	Name when referred to in our text	Location
Elliott, J. 2004 'Multimethod approaches in educational research' <i>International Journal of Disability, Development and Education</i> 51, 2: 135-149.	<i>Elliott</i>	<i>Resources File</i>
Fung, Y. and Carr, R. 1999 'Tutorials in a distance education system: students' expectations and preferred approaches' in R. Carr, O. Jegede, Wong Tat-Meng and Yuen Kin-sun (eds) <i>The Asian Distance Learner</i> , Hong Kong: Open University of Hong Kong Press (pp. 150-164).	<i>Fung and Carr</i>	<a href="http://www.ouhk.edu.hk/cridal/gdenet/Teaching/Instruction/EATL37B.html">http://www.ouhk.edu.hk/cridal/gdenet/Teaching/Instruction/EATL37B.html</a>
Rocco, T., Bliss, L., Gallagher, S. and Perez-Prado, A. 2003 'Mixed methods research in organisational systems', <i>Information Technology, Learning and Performance Journal</i> 21, 1: 19-40.	<i>Rocco et al</i>	<i>Resources File</i>
Tarbin, S. and Trevitt, C. 2001 'Try, try again' in D. Murphy, R. Walker and G. Webb. <i>Online learning and teaching with technology: case studies, experience and practice</i> , London: Kogan Page (pp. 63-72).	<i>Tarbin and Trevitt</i>	<i>Resources File</i>
Walker, R. 2003 'Is there anyone there? The embodiment of knowledge in virtual environments', in C. Vrasidas, and G. Glass (eds) <i>Current perspectives on applied information technologies. Volume 1: distance learning</i> , Greenwich Cn: Information Age Publishing and the Centre for the Application of Information Technologies (pp. 99-114).	<i>Walker</i>	<i>Resources File</i>
Johnson, R. and Onwuegbuzie, A. 2004 'Mixed methods research: a research paradigm whose time has come' <i>Educational Researcher</i> 33, 7: 14-26.	<i>Johnson and Onwuegbuzie</i>	<i>Resources File</i>
Powers, A. 2004 'An evaluation of four place-based education programs', <i>The Journal of Environmental Education</i> 35, 4: 17-32.	<i>Powers</i>	<i>Resources File</i>
Pinheiro, S., Rohrer, J. and Heimann, C. 1998 'Assessing change in the teaching practice of faculty in a faculty development program for primary care physicians: toward a mixed method evaluation approach' paper presented at <i>American Educational Research Association Annual Conference 1998, Diversity and citizenship in multicultural societies</i> , April 13-17, San Diego, CA. Pinheiro is accessible at <a href="http://www.eric.ed.gov/">http://www.eric.ed.gov/</a> (and then insert ED421499 into the search bar).	<i>Pinheiro</i>	<i>Resources File</i>
Greene, J. 2002 'Mixed-method evaluation: a way of democratically engaging with difference', <i>Evaluation Journal of Australasia</i> 2, 2: 23-29.	<i>Greene</i>	<i>Resources File</i>



# What are mixed methods?



## Unit overview

In this unit, we will do three things:

- ▶ explain what mixed methods are
- ▶ review qualitative and quantitative approaches.

## Learning outcomes

When you have worked through this unit, you should be able to

- 1 Explain the terms multiple and mixed methods and other terms used in discussing issues relating to them.
- 2 Identify the issues involved in using them.
- 3 Begin to identify different ways in which mixed methods are used in studies.

## Introduction

You will be familiar with the ideas of quantitative and qualitative studies (see *Modules A3 and A4*). Indeed, you may have a strong preference for one of these approaches. In this unit we are going to look at mixed-method studies, i.e. ones that use both quantitative and qualitative methods. We shall start by defining what we mean by mixed methods and look at the various research designs that use a mixed method approach.

You will find quite a few words that may be new to you in this unit, such as epistemology, paradigm and positivism. We'll be using these terms fairly regularly throughout this module, so you will soon get used to them.

## Defining mixed methods

Combining quantitative and qualitative methods sounds like a good idea. Using multiple approaches can capitalise on the strengths of each approach and offset their different weaknesses.

It could also provide more comprehensive answers to research questions, going beyond the limitations of a single approach.

### Epistemology

A branch of philosophy which studies the theory of knowledge. Also, a position or stance on what should be considered as acceptable knowledge. The word 'epistemology' comes from the ancient Greek words for 'knowledge' and 'knowing'. For more about epistemology, see Unit 2.

### Activity 1 15 mins



Take a moment to jot down your reactions to the following questions:

- 1 Does it make sense to adopt this approach or does it conflict with the theories of knowledge or the **epistemology** underlying the different methods?
- 2 Are different research methods necessarily tied to or determined by the theories of knowledge that gave rise to them or can they be used freely as the researcher chooses?
- 3 Is it better to work within just one approach?

*The feedback to this activity is at the end of the unit ►*

## Classification of combinations of research methods

There are many ways in which different research methods can be combined in social research and we'll look at these in later units in this module. But first, let's try to classify the types of combination, if we can.

In the research literature, a distinction is often made between multi-method and mixed method studies.

### Multi-method studies

*Multi-method* studies use different methods of data collection and analysis within a single research **paradigm**. For example, you might conduct a qualitative study in which you observe as a participant and also interview people. Or in a quantitative study you might carry out an attitude survey of students and also collect information from computer records about the frequency of 'hits' in the use of web-based course materials. In other words, you make use of methods that are broadly compatible within a paradigm or a set of beliefs and values.

### Paradigm

A term used to refer to a set or cluster of commonly-held beliefs or values within the research or scientific community about a field of study. The beliefs are seen as shaping or dictating how scientists and researchers should proceed in carrying out research in their field - what they should focus on, what methods to use and how the results should be interpreted.

## Mixed method studies

*Mixed method* studies attempt to bring together methods from different paradigms. In a mixed method study you might conduct a series of semi-structured interviews with a small number of students and also carry out a large-scale survey. This kind of integration, of qualitative with quantitative methods, is also referred to sometimes as *multi-strategy* research. In this module, we shall use the terms multi-method and mixed method to maintain the distinction described above.

However, you will find that there is little consistency in the use of the terms multiple and mixed methods in the research literature. Recently, Tashakkori and Teddlie (2003) have tried to sort out some of the different terms researchers use to describe multiple and mixed methods. However, their classification is complicated and is probably of most use to specialist researchers. Nonetheless, their basic categories are useful for our module (see Figure 1).

Tashakkori and Teddlie argue that the need for greater clarity is important because they see the emergence of mixed methods as a 'third paradigm' (quantitative and qualitative being the first two), with a 'worldview' of its own. They see this 'third paradigm' as being distinct from the **positivist** perspective of quantitative research, on the one hand, and the **constructivist** perspective of qualitative research on the other. As you can imagine, this idea is the subject of another big debate!

At the next level of complexity, the meaning given to 'mixed methods' is influenced by how methods are combined. For instance, you might collect information by using each method concurrently (at the same time), or sequentially if your aim is to use one method to inform another (say, interviewing before surveying). These two approaches are different. The first is more like two parallel studies that only come together once the data are being analysed, whereas, in the second, the aim is to use the methods in a more integrated way. The actual methods used may be the same, but the ways in which they are sequenced and combined can make a big difference in the process of conducting the study and in the results.

Making decisions about how best to sequence and combine methods will depend on the nature of the research you are conducting and is a matter of judgement, experience and luck!

## Paradigm (cont)

The term was used by Thomas Kuhn (1922-1996) in relation to his influential theory of scientific revolutions. He saw the development of scientific thought as the emergence of a series of paradigms. He argued that in this process, one set of beliefs and practices (one world view) are eventually overturned by a new set. Also, that any new set is incompatible with the existing one because they are based on very different beliefs. In social science, no single paradigm has dominated, so competing paradigms co-exist.

## Positivism

A theory of knowledge which argues for the use of the research methods of social science in the study of social phenomena. It sees social phenomena as having objective reality.

## Constructivism

A theory which holds that social phenomena and their meanings are constructed by the people involved in using them, rather than being external objects existing independently of them, in contrast to positivism.

**Figure 1 Multi-method and mixed method designs**

<b>A Multi-method designs</b>	<b>B Mixed methods designs</b>
Use more than one method but restricted to methods selected from within one worldview (i.e. quantitative or qualitative approaches).	Use and mix both qualitative and quantitative data or methods.
Types:	Types:
A1 Multi-method quantitative studies	B1 Mixed method studies
A2 Multi-method qualitative studies	B2 Mixed model studies.

(Adapted and abbreviated from Tashakkori and Teddlie, 2003:11)

Multi-method designs are generally intended to supplement one information source with another; or ‘triangulate’ on an issue by using different data sources to approach a research problem from different points of view. There are two types:

A1 Multi-method quantitative studies stay within a quantitative paradigm but use more than one method of data collection. One example might be the use of a survey mailed to distance students used in conjunction with other data collected from the same students from other sources – perhaps student record data. This kind of research design might allow you to cross-check between (for example) students’ opinions of the assessment process and their actual assessments, or the dates they returned assignments.

A2 Multi-method qualitative methods might combine student interviews, observations made of email discussions and staff interviews. Again the key design idea is to cross-check between sources and to supplement one kind of data with another:

Mixed methods designs are conceptually more complex. They may provide a basis for triangulation but, more often, they become the source of different ways of conceptualising the problem. They might set out to look at the same things from different points of view, but it often turns out that the viewpoint implies such different ways of seeing that the lines of sight do not converge.

B1 Mixed method studies might include a survey followed up by detailed individual interviews, or observations used as the basis for constructing a questionnaire.

B2 The final category ‘mixed model studies’ requires some explanation. In an earlier book Tashakkori and Teddlie (1998) extend the issue of mixing methods to a set of broader considerations than the use of different methods per se. They argue that the issues are not narrowly about method, but also involve mixes of methodology (i.e. the ‘logic of methods’). This might sound abstract but it has significant implications. It means looking beyond stitching together methods from different paradigms and instead considering other aspects of research design, specifically:

- ▶ overall inquiry purpose – whether the aim is to confirm or refute hypotheses or whether it is more exploratory

### Hypothesis

An informed proposition, or speculation, that is expressed in a way which can be tested. It focuses on the possible relationship between two or more variables.

- ▶ instrument design data collection – whether qualitative or quantitative
- ▶ data analysis and inference – whether statistical or qualitative.

The detail of this typology is not as significant in the current context as the fact that the model reaches beyond assembling an assortment of methods to questions that touch on deeper questions about using multiple paradigms. Most of us who have tried using mixed methods find that, sooner or later, we run into these deeper questions and it is as well to be prepared for them!

A further issue we have not mentioned is that of sequence. A mixed method study that involves the use of a questionnaire and case studies is likely to be very different if the case studies precede the survey, compared to a study in which they follow it.

If you've already had some experience of combining methods in doing research or evaluation studies, how would you classify your use of them according to Figure 1? If you are new to the idea of mixed methods you might like to think about this last question about sequence and think about what the implications of each choice might be.

## Quantitative and qualitative research: a reminder

We're assuming that you're already broadly familiar with different kinds of quantitative and qualitative research and if you have already studied Modules A3 (quantitative methods) and A4 (qualitative methods) in this series you will know some the different characteristics of quantitative and qualitative research methods. To remind you, here is a brief summary:

### Quantitative research

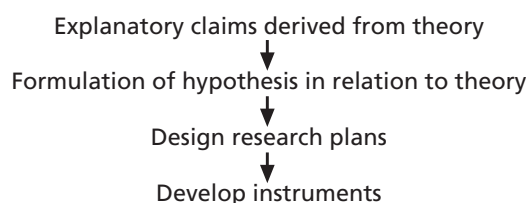
Quantitative research places the emphasis on measurement when collecting and analysing data. Quantitative research is defined, not just by its use of numerical measures but also that it generally follows a natural science model of the research process measurement to establish objective knowledge (that is, knowledge that exists independently of the views and values of the people involved).

Generally it makes use of **deduction**, that is, research is carried out in relation to **hypotheses** drawn from theory. The typical process of quantitative research is given in Figure 2.

### Deduction

The process of deriving logical conclusions about particular instances from general premises or statements.

**Figure 2 Steps in the (linear) deductive process**



Methods of data collection in quantitative research include:

- ▶ surveys (questionnaires)
- ▶ structured interviewing
- ▶ structured observation
- ▶ secondary analysis and official statistics
- ▶ content analysis according to a coding system
- ▶ quasi-experiments (studies that have some of the characteristics of experimental design)
- ▶ classic experiments (studies that have control groups and experimental groups).

### Qualitative research

Qualitative research emphasises meanings (words) rather than frequencies and distributions (numbers) when collecting and analysing data. Some researchers argue that qualitative research is also concerned with issues of measurement, but with measures that are of a different order to numerical measures.

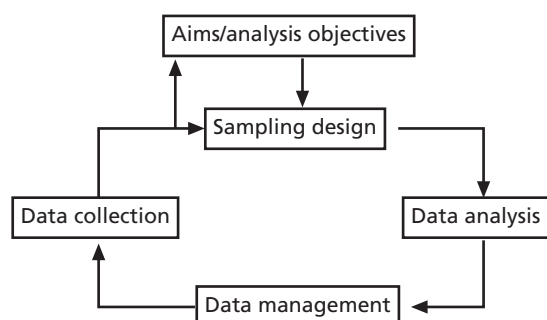
#### Induction

The process of inferring a generalised conclusion from particular instances.

Thus qualitative 'measures' are often binary in that they are interested in the presence or absence of phenomena, or they work implicitly with simple scales (e.g. How much conversation or laughter or aggression or mutual touching in a particular interaction?).

Primarily qualitative research seeks to understand and interpret the meaning of situations or events from the perspectives of the people involved and as understood by them. It is generally **inductive** rather than deductive in its approach, that is, it generates theory from interpretation of the evidence, albeit against a theoretical background. A typical process in qualitative research is given in Figure 3.

**Figure 3 The iterative qualitative research process (Miller and Crabtree 1992: xv)**



Methods of qualitative research include:

- ▶ observation
  - unstructured
  - structured
  - participant
- ▶ interviews (face-to-face, or through various technologies)
  - unstructured (everyday conversation, life history narrative of key informants; projective techniques)
  - semi-structured (using an interview guide)
  - individual (an in-depth interview)
  - group (focus group)
- ▶ life history narrative focused on selected topics
- ▶ critical incidents
- ▶ structured (using an interview schedule)
- ▶ questionnaires given in meetings
- ▶ concept mapping
- ▶ recordings - audio and video with structured or unstructured analysis, content analysis of talk and interaction
- ▶ case study
- ▶ action research
- ▶ documentary analysis.

As you can see, there are so many different qualitative research methods that it is sometimes difficult, at first sight, to see what they have in common.

However, Tesch (1991) identifies three common features among them:

- 1 they are language-oriented and emphasise communication and meaning
- 2 they are 'descriptive/interpretive' in character; providing descriptions and interpretations of social phenomena
- 3 they include theory-building approaches which try to identify connections between social phenomena.

### The distinction between quantitative and qualitative research

The last section pointed to some of the differences between quantitative and qualitative research but when we turn to look at mixed methods we need a rather more sophisticated understanding of the issues.

Many textbooks on research methods distinguish between quantitative and qualitative methods (it can be a convenient way of organising a textbook) but researchers disagree on how useful this is. Some see it as a fundamental distinction, reflecting essentially different paradigms of research (as summarised

in Figure 4). Others view it as unnecessary or not reflecting how researchers really work in practice. A pragmatic view holds that the choice of any particular combination of procedures or methods depends upon factors like the characteristics of the data, the objectives of the research, the kind of research question, the preferences and skills of the researchers and the time and resources available to them.

**Figure 4 Basic differences between quantitative and qualitative research concepts**

	Quantitative	Qualitative
Role of theory	Deductive approach, testing of theory.	Inductive approach, generation of theory.
Theory of knowledge (epistemology)	Follows a natural science model, particularly positivism.	Interpretative.
View of social reality	Social reality as something objective and measurable.	Social reality as something constructed by people.

If you have followed the previous units in detail you will be aware that these simple distinctions do not hold in practice. For instance, rarely is 'theory' simply inductive or deductive. Measurement studies often arise from much more pragmatic concerns, common observations or in an attempt to investigate common assumptions and practices. Similarly, qualitative studies frequently arise directly from the desire to test theory, for instance whether assumptions about gender difference can be observed in educational outcomes.

One of the problems that stems from dividing research methods into two types (as qualitative and quantitative) is that this confounds other significant differences. In particular it tends to lead to the assumption that quantitative research can be equated with empiricist and positivist views. Sometimes this is the case, but such views can also inform certain kinds of qualitative research. This is not as abstract a problem as it might sound! What can happen is that a study can be designed to bring together a mix of methods, only to discover (usually late in the process) that the methods are being used with different purposes and do not fit.



**Feedback to selected activities**

## Feedback to Activity 1

When we put these questions to other researchers, we get a mixed response. While there is a growing use of mixed methods in research and evaluation studies, particular in relation to policy evaluation, not all researchers support the approach and it is the subject of ongoing debate. Some researchers warn too about the technical difficulties involved and the need for skill and judgement in their use:

*'... using multiple and diverse methods is a good idea, but is not automatically good science.'*

Judith Greene and Valerie Caracelli (1997:5)

Using mixed methods requires researchers to have a range of skills, either as individuals or across a team of researchers. For an individual, this can mean that there is at least twice as much to learn, though one benefit is that he or she may end up with a wider repertoire of skills and capabilities as a result. It can also be argued that in using mixed methods, there are at least twice as many opportunities to make mistakes and twice as many potential sources of criticism! As well as competence in skills and techniques, researchers need to understand the theories of knowledge (the epistemologies) underlying the methods, so that they can make informed choices and reflect critically on their own work



# Mixed methods in practice



## Unit overview

In this unit we will do three things:

- 1 provide some examples drawn from distance education and social research more broadly
- 2 use the examples to pin-point some principles of design that you can extrapolate to your own setting
- 3 ask you to reflect on some issues arising from the examples given.

## Learning outcomes

When you have worked through this unit, you should be able to:

- ▶ Give examples of uses of mixed methods and multi- methods.
- ▶ Begin to identify different ways in which mixed methods are used in studies.

## Introduction

We've already established that the use of mixed methods in educational and social research is comparatively new and we have also acknowledged that the research literature in this growing field has certain complexities. We've looked particularly at differentiating on one level at least, **mixed method studies** and **multi-method studies**.

We've also acknowledged that the **combination** of methods and the **sequence** of the methods chosen in any particular study is a critical decision that will normally be informed not just by the research question but also by the researcher's **epistemological commitment** and **ontological views**.

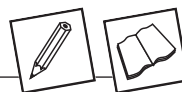
### Epistemology

Having an epistemological commitment refers to one's philosophical beliefs about what is legitimate knowledge. For example, Christine's intellectual development and her epistemology have been heavily influenced by her engagement with critical social theory. She has a particular view of the world and one which prejudices her approach to research as well as her interpretation of it. Her views of knowledge, how it is constituted and how she evaluates it are highly dependent on her exposure to critical social theory. All researchers are driven by particular epistemologies and all research is imbued with epistemological beliefs.

## Examples of the uses of mixed methods

Now let's take a look at some examples of the uses of mixed methods.

### Activity 1 1 hour



#### Multi-method Approaches in Educational Research

Read *Elliot* from your *Resources File*.

When you read through it, ask yourself these questions:

- 1 What different methods are used?
- 2 Is this a case of multi-methods or mixed methods?
- 3 How are the methods used in relation to each other? (Does one take the lead? Do they answer different parts of the research question?)

*The feedback to this activity is at the end of the unit ►*

#### Comment

We chose this example for two reasons. We think it is a good example of a researcher being prepared to look critically at the research practices of his field and to take action in the presence of intellectual dissatisfaction. He has been forced to review his epistemological beliefs and his ideas about ontology as well. It is also a very good exploration of how mixed methods can serve to be 'illuminative'.

Elliott's research led him to the opinion that the 'reason why the complexity of this construct [locus of control] had not been raised to any significant extent in the literature was because the ubiquitous use of highly simplistic quantitative measures masked the underlying conceptual and measurement difficulties' (Elliott 2004, p. 7). Elliott's work here is salutary of the benefits of mixed or multiple methods to the research endeavour.

#### Ontology

Like epistemology, ontology has its roots in philosophy and is concerned with perceptions of reality.

### Activity 2 30 mins



#### Classification of Elliott's methods

- 1 Return to the differentiation we made earlier between mixed methods and multiple methods on p. 6.
- 2 Read the three questions in Activity 1 and make some notes about how you would classify Elliott's study (mixed or multi-method), that is identify some 'criteria' for classification and list some reasons for your decisions.

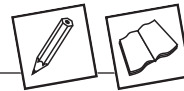
3 Keep your list nearby and you can add to it as you read and think further.

We'll come back to this later.

*There is no feedback to this activity*

Now let's move to a different kind example and one that is perhaps more directly relevant to you.

### Activity 3 1 hour



#### Tutorials in a distance education system

Read *Fung* and *Carr* which is available at:

<http://www.ouhk.edu.hk/cridal/gdenet/Teaching/Support/EATL4B.html>

This study was one part of a larger study undertaken at the Open University of Hong Kong. It was concerned with:

- ▶ exploring the benefits students initially expected to gain from tutorial attendance
- ▶ the tutorial styles they preferred
- ▶ the approaches used by tutors in face-to-face sessions
- ▶ students' overall satisfaction with tutorial provision
- ▶ students' attendance at tutorials and the reasons for it.

When you read through it, ask yourself these questions:

- 1 What different methods are used?
- 2 Is this a case of multi-methods or mixed methods?
- 3 How are the methods used in relation to each other (Does one take the lead? Do they answer different parts of the research question?)

*The feedback to this activity is at the end of the unit ▶*

#### Comment

The solution adopted in this example is to make one method dominant and the second method subsidiary. Note that the qualitative data are treated here as though they were quantitative. In analysing them they are treated as frequencies and distributions. Used this way they can fill out some of the more heavily processed and refined data from the surveys in a way that is compatible with them. What might look like a mixed method study is, on closer study in fact a multi method study.

**Activity 4** 45 mins**Investigating tutorials**

- 1 Design a ‘thought experiment’ to investigate tutorials from within a qualitative perspective, using a mix of methods including a questionnaire.
- 2 This is more difficult than it might at first seem – but a helpful clue is to think about using a questionnaire subsequent to a survey – not before! For example, think of a questionnaire study designed on the basis of intuition, followed by detailed case studies. Then think about detailed case studies which could be used to design a questionnaire.
- 3 What are the advantages and disadvantages of each strategy?

*There is no feedback to this activity*

**Recap**

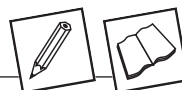
In a recent analysis of mixed methods in organisational systems, Rocco, Bliss, Gallagher and Perez-Prado (2003, p. 19) remind us that:

*More useful research says something important about the phenomena under study. It is insightful, and its explanations are plausible. Many researchers find that to conduct this level of research involves mixing methods and perhaps also mixing paradigms.*

Their paper provides a useful overview of the field and serves to reinforce what we have explored so far.

The latter section of their paper reviewed 16 articles in the journal *Information Technology, Learning and Performance*. Like us in our own search of the literature and our inability to identify research papers that specified the use of mixed methods, they found that *none* of the 16 articles identified the use of mixed methods in the abstracts (Rocco et al 2003, p. 6) and only three of the 16 met their criteria for using mixed methods in the relevant methods section.

You can read the full paper (in the *Resources File*), but here we will extract Rocco et al's (2003) summary of one of the three articles, ask you to make your own analysis of it, give you some feedback from Rocco et al and finally give you a more pragmatic task to carry out by way of conclusion to this unit.

**Activity 5** 45 mins**Electronic meeting systems and equity**

- 1 Read the extract below from *Rocco et al* (2003).
- 2 Rocco et al (2003) class Burdett's study as a mixed method study. Look back at the list you made in Activity 2 drawn from Elliot's investigation and see if you can extrapolate

key points from Burdett's investigation to add to the list you are generating about 'criteria' that might characterise mixed methods in practice.

- 3 What do you think was the most important finding from the research?
- 4 Would this have been revealed in the absence of a mixed method approach?

*The feedback to this activity is at the end of the unit ►*

### **Electronic meeting systems and equity**

Burdett (2000) conducted a comparison study of women's perceptions of satisfaction and participation using an Electronic Meeting System (EMS) versus a conventional meeting format. Thirty female participants in nine EMS meetings provided feedback on a questionnaire that replicated questions in an earlier study of Australian university women who participated in conventional meetings (Affirmative Action, 1995, as cited in Burdett, 2000).

The quantitative results from the questionnaire were compared using the Phi coefficient. Only the item dealing with feelings of intimidation was statistically significant ( $r = -.27$ ). Women in the conventional meetings (19%) felt more intimidated than women in the EMS meetings (3%). In addition to the quantitative data collection and statistical analysis, Burdett used qualitative data collection and analysis strategies. In the methods section, Burdett (2000) stated that she "also gained information from first-hand observations and experiences as an [EMS] meeting facilitator as well as from the questionnaire responses and some follow up semi-structured interviews with a small number of participants" (p.5). No specific information was provided regarding the construction of the interview guide or analysis of the observations and comments; however, the results section appears to be organized by themes that emerged from the comments and observations (i.e., gaining a confident voice through anonymity, equity, listening, maintaining relationships, efficiency and effectiveness, and satisfaction with outcomes). She interspersed specific comments and observations throughout the results. The comments and observations often revealed aspects that reduced the women's satisfaction in the EMS meetings.

Overall, more women in EMS meetings (83%) were satisfied with their contributions than women in conventional meetings (61%). The comments, however, revealed that study participants felt that ideas presented in these EMS meetings were presented too rapidly, leaving people feeling disempowered; that bonds with close colleagues could be threatened due to anonymity; and that adequate time was not given to analyse the various views presented. The comments revealed new information and perspectives about the women's experience of electronic meeting systems.

Based on the five purposes identified in Greene et al. (1989), Burdett (2000) used mixed methods according to the complementarity purpose. The use of both quantitative and qualitative data collection and analysis resulted in the phenomenon of women's experience of meetings being seen from different perspectives, which were illuminated with mixed methods.

Because both quantitative and qualitative data collection and analysis/inference were used in this single-phase study, Burdett's study is also an example of a parallel mixed model study or Type VII as described by Tashakkori and Teddlie (1998). Type VII is an extended example of a mixed model design that involves the simultaneous application of different approaches. Burdett's study used quantitative and qualitative strategies for more accurate and useful findings in a confirmatory investigation.

From Rocco et al (2003, pp. 25-26)

(Reprinted with kind permission from the *Information Technology, Learning and Performance Journal*).

**Activity 6** 1 hour**Concluding task**

Think about a research project you are about to undertake or perhaps one that you have been involved in recently. Given the reading so far in this unit and the examples we have reviewed:

- 1 List the research questions/s in the rows of a table (include some comment about the research context, the purpose, any hypothesis that is to be tested or is the question's interest more in understanding, describing or predicting).
- 2 Identify the various methods you are considering in relation to each question.
- 3 Annotate the strengths and weaknesses of each method in light of the question/s.
- 4 Rationalise which method will best enable you to answer the question.
- 5 Also note the intended audience (we'll look at this idea in Unit 4 in *Mixed methods in Reporting and Evaluation*).
- 6 Share your document with a critical friend or colleague for debate.

*There is no feedback to this activity*

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## Feedback to selected activities



### Feedback to Activity 1

This first example is drawn from educational psychology. It is not important that you know the field. The paper is, in our view a useful one, as it describes the way in which an educational psychologist from an empiricist research tradition came to see the value and importance of mixed methods research; he calls it multimethod research. Elliott's paper presents essentially two complex and interesting case reports of two major projects with which he has engaged. Each has assisted him rethink the place of multiple and mixed methods in educational research. For our purposes we have used the first research case he discusses (Elliott 2004, pp. 1-9), the second one he presents is also relevant to the discussion. (If you are interested, the more formal report of the findings of the case we are exploring here, is reported in (Elliott 1996).

Elliott (2004, p.1) believes that what he calls 'multimethod approaches' have helped him rethink his repertoire as a researcher; he says that 'the seductiveness of the survey [as quantitative method] can result in a tendency to overlook complexities that may only be revealed when a combination of methodologies is employed'. He explains that the use of self-report questionnaire and surveys in his field of educational psychology has led to 'oversimplification and misunderstandings' of phenomena being studied.

Elliott is an educational psychologist with a particular interest in locus of control and achievement motivation in children. ('Locus of control' describes a construct where individuals recognize that events in their lives are either contingent on their own actions (i.e. internal) or out of their control (i.e. external).) In this area of psychological research a specific survey questionnaire, the Children's Nowicki-Strickland Internal-External Scale (CNSIE) is accepted by the research community as a valid and reliable measure of locus of control in children; it has been extensively used in the past thirty years and has enjoyed 'phenomenal success' where 'more than one

thousand studies had been conducted involving its use and the measure has been translated into more than two dozen languages' (Elliott, 2004, p. 3).

This is a persuasive statement of the acceptance of the tool by the particular research community; however Elliott's concern was that its use had become so pervasive that its deficiencies had become unrecognized especially in settings of disability. Elliott also considered that the tool used complex language, creating difficult constructions that used negative terms frequently so that its efficacy was questionable.

Elliott (2004, p. 3) believed that:

*...questionnaires [such as the CNSIE] are placed before large numbers of children, often by research assistants, completed somewhat anonymously and handed in, the principal investigator eventually receiving a mound of data that can immediately be put to the mercies of SPSS.*

Elliott's investigations of the legitimacy of the CNSIE scale in particular its validity and reliability with children with learning disabilities, was preceded by a major literature review. His 'hunch' that the quantitative methods employed by his peers were done so at 'some psychological and physical distance from child informants', seemed real. More importantly he believed that the sole use of self report surveys in this field had serious clinical implications. Primarily this was that the results of self-report surveys such as the CNSIE had served to legitimate which specific observations indicated accurate measures of locus of control.

After an extensive literature review Elliott found (2004, p. 3) that:

*while large-scale surveys often indicate that those exhibiting delinquent and disordered behaviour tend to be more external [in locus of control], in actuality, the mean difference between groups is often small – 2 or 3 items on a 40-item scale such as the Children's Nowicki-Strickland Internal-External Scale (CNSIE) (Nowicki and Strickland, 1973). Thus, while there may be statistical significance between "normal" and "special" populations, the clinical significance might be meaningless.*

## Literature review

Elliott's major literature review preceded the empirical work outlined subsequently. It was fundamental to the way in which he conceived his investigation. The comprehensive study of the literature helped him see the field in more detail and enabled him to outline the variety of theoretical positions held by key writers in the area. He wanted to understand the confusion and misunderstandings in the literature and importantly to 'highlight the items in locus of control scales that appeared to be measuring other constructs such as self-efficacy or personal causation' (Elliott 2004, p. 6). Moreover, he conceded that that 'so few of the voluminous number of locus of control studies made reference to conceptual difficulties appeared to me to

be largely a consequence of the isolated employment of self-report measures' (p.6). So this was essentially the starting point for his inquiry.

### The CNSIE survey

In light of his misgivings he wanted to explore the use of the CNSIE tool in a more determined way with a group of behaviourally disordered children. He used the CNSIE tool, a paper and pencil self-report scale of 40 question items to which children respond 'yes' or 'no'. His sample size was 259 and the children were aged between 9 and 16. However, he read the questions aloud to the participants. This enabled him to gauge 'the sense youngsters make of the measures put before them' (Elliott 2004, p.4).

### Interviews

Elliott investigated locus of control with a subset of 41 children. The interviews were led by a series of scenarios or vignettes which mapped the CNSIE items to what he called areas of 'potential challenge in the participants' lives'. He anticipated that the scenarios would reflect participants' experiences thereby opening up discussion. He also anticipated that the interviews would provide data that would help him see the complexities of making judgments about children's locus of control beliefs.

### Transcript review

A number of academic peers, removed from the study, were asked to review 12 interview transcripts. He provided the reviewers with a detailed definition of the construct so that theoretical misunderstandings among the reviewers were avoided.

### Analysis

The CNSIE survey was analysed traditionally using SPSS and statistical inferences drawn. The results of the quantitative part of his study are essentially peripheral to our discussion here however he did find that:

*In face-to-face administration, the CNSIE soon revealed its weaknesses. Not only were some questions overly long and complex (e.g. "Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?"), others had constructions that left the child conveying the opposite response to that which he or she intended.*

By talking the participants through the questions he was able to assess the difficulties participants have with the language of the tool.

The paper does not detail the kind of analysis he conducted of the 41 interview transcripts. He experienced difficulty making judgments about the children's responses, and he was interested to see if academic peers more 'distant' (does he mean objective?) from the study might obtain a clearer picture. He asked them to 'rate the locus of control of six children who

previously ranked highly internal, and a further six ranked highly external, on the CNSIE' (Elliott 2004, p. 6). Again, a detailed discussion of the results is not required for our purposes here, but he points out interestingly that inter-rater reliability was low and the external and internal groups were almost the same! As he explains:

The findings led to the conclusion that (a) there was little relationship between scores on the CNSIE and responses to the vignettes, and (b) the children's locus of control, as measured by the interviews, was rated very differently by assessors with extensive experience of educational and clinical work with children with emotional and behavioural difficulties.

## Feedback to Activity 3

### Research methods: Questionnaire + interviews

The target group for the research consisted of two groups of BEd (Honours) students in the School of Education and Languages. Group 1 consisted of new students on a middle level course; Group 2 consisted of students who had completed at least one year in the university and were taking a higher-level course. Each course lasted a year:

Likert scale and also to give (write down) three expected gains from attending tutorials).

Questionnaire 1 was sent to:

- ▶ 142 new students, of whom 45 responded (a 31.7% return rate)
- ▶ 300 higher level experienced students, of whom 96 responded (32.0% return rate).

Questionnaire 2 was sent only to those students who returned the first questionnaire:

- ▶ of the 45 new students who had returned Questionnaire 1, 19 students responded (a return rate of 42.2%)
- ▶ of the 96 experienced students who had returned Questionnaire 1, 57 students responded (a return rate of 59.4%)

Interviews (semi-structured) were conducted with eight students who had responded to the questionnaires.

### Likert scale

A method of asking questions about attitudes, developed by Rensis Likert, an American psychologist and researcher on management styles.

In Likert scales, people are asked to rate their degree of agreement with a series of statements, often on a scale of 1 to 5.

## Analysis

Quantitative data from the questionnaires were analysed using simple descriptive statistics (frequencies, means and standard deviations). This enabled the researchers to make comparisons between the two groups as well as ranking preferences within each group.

One example of a summary table from the report is given below.

### Descriptive statistics

These provide a description of the people or things in the research sample. They do not enable the researcher to generalise to the population as a whole (inferential statistics are needed to do that). Common measures in descriptive statistics are frequency distribution, central tendency (mean, mode and median) and variability (standard deviation).

**Table 6 Overall rating of tutorials by students (p. 160)**

Overall rating	Frequency (%) of students	
	New students	Higher level students
Excellent	3 (15.8%)	6 (10.7%)
Good	7 (36.8%)	24 (42.9%)
Satisfactory	7 (36.8%)	11 (19.6%)
Fair	2 (10.5%)	12 (21.4%)
Poor	0 (0%)	3 (5.4%)

Qualitative data came from the open ended questions and interviews. The qualitative data were analysed into categories and the frequencies in each category counted.

### Findings

The results for both groups, new and experienced students, were fairly similar. For example, students' first preference for tutorial formats was the lecture. Students reported that tutors most often used the format of small-group discussion in tutorials, with lectures coming second.

The interview discussions reflected views similar to the questionnaire results, so provided some confirmation. The researchers report also that 'the interviews provided some additional insights, though, given the sample size, it is difficult to say to what extent the views expressed were shared by the students as a whole' (p. 161).

## Feedback to Activity 5

Rocco et al had this to say in particular about Burdett's study.

*Burdett's (2000) study of women and meetings was enriched by the use of mixed methods to collect and analyse the data resulting from the statistical findings. The one statistically significant finding, that women felt more intimidated in conventional meetings, was complemented by the identification of several factors that reduced the women's overall satisfaction with EMS meetings. She obtained a clearer, more accurate, and nuanced view of women's behaviors in*

*and feelings about meetings. More research can thus be generated from the plethora of relevant themes that emerged from Burdett's study (2003, p. 26).*

In their general summation (Rocco et al 2003, pp. 27-28) to the article they raise the following points:

- ▶ epistemological issues always influence research questions and chosen methods
- ▶ research paradigms have specific traditions of data collection and analysis procedures
- ▶ research designs and analysis strategies ought to be appropriate to the research questions at a technical, philosophical and political level
- ▶ the conceptual framework of any method ought to be explicitly embedded in the relevant literature
- ▶ mixed methods studies need to be reported in ways that are clear and transparent, emphasising explicitly research design decision making, so that they can empower readers to use them in their own research.

# Case study and mixed methods



## Unit overview

In this brief unit, we will try to move from analysis to synthesis. The emphasis in this unit is on developing possible research designs from initial ideas. In this sense this unit is less instructional in style and more open to interpretation and discussion.

The idea is to give you an opportunity to apply what you have learnt to the design of particular studies. Specifically, we will:

- ▶ provide a relatively straightforward case to consider as the basis for research
- ▶ give you a more complex problem as the starting point for a mixed methods design.

## Learning outcomes

When you have worked through this unit, you should be able to:

- ▶ Explain the complexity of mixed method research and the work involved in designing useful research studies.
- ▶ Develop your capability to think through case study research designs in the face of real problems.

## Introduction

Case studies are research and evaluation studies that focus on specifics and give an account of the instance in action. A case study can describe a project, a course, an institution or a particular innovation. Its value lies in its capacity to provide vicarious experience to the reader – to give you the feeling of ‘being there’ and perhaps to set you thinking about how you might respond to dilemmas and conflicts as events unfold.

Generally, case studies are not very good as sources of theory or explanation that goes beyond the conditions in which they are located. They are more effective as a source of interpretations and ideas than as a way of verifying them or providing generalisations that can be confidently applied system-wide.

**Activity 1** 1 hour**email discussions**

Use *Tarbin* and *Trevitt* from your *Resources File* for this activity.

This case is taken from a book of case studies about teaching and learning on-line in higher education. It describes a case at two points – the same course repeated with a different group of students and taking into account what the lecturer has learnt from working in new ways.

The subject is medieval history, being taught within a university degree but the emphasis here is not on the subject itself but on the introduction of email discussion groups in an attempt to get students to discuss the course outside of normal classes. The lecturer starts from the position that face-to-face tutorials provide good opportunities for students to present aspects of the subject to one another but that those listening are often hard to motivate into participating fully in discussion. E-mail discussion, they hoped, would provide a medium that was less daunting for those who felt the pressure of an immediate audience intimidating, and give every a chance to reflect on their contributions to the discussion before taking part. The paper describes what happened the first time this was tried, and again a year later with another group.

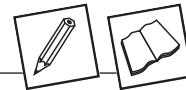
This case is presented primarily through the eyes of the lecturer whose idea it was to introduce email discussion in the course (Stephanie) with comments from Chris Trevitt, who acted as adviser and observer of the course. But essentially what you have is a first hand account of the course from Stephanie.

There are several ways you might approach this case as the basis for a research or evaluation study. You might interview the lecturer and the students, **or** you might examine students' assignments, or conduct a close analysis of on-line communications.

- 1 Start by making a list of all the possible ways of collecting data that you can think of in relation to this case, both quantitative and qualitative.
- 2 Choose three methods and explain why you think these would be the most useful to use in this case.
- 3 Make your initial list of ideas as extensive as possible. At this stage do not worry about what might be practical or feasible.
- 4 In selecting three methods keep in mind the scale of the case and the kind of claims you want to be able to make. There is a limit to the generalisations you might make from a single case and it is unlikely that you could build a large sample that would provide meaningful findings.

*There is no feedback to this activity*



**Activity 2** 1 hour

## The distinctive pedagogies of distance education and e-learning

Use *Walker* from your *Resources File* for this activity.

This paper explores a set of ideas around the distinctive pedagogies of distance education and e-learning. It is a reflective personal account that draws on a particular case, though in this case in a less specific way than in Reading 1. In reading it, initially you should put ideas about mixed methods to the back of your mind and simply follow the ideas.

As we said the paper is essentially case-based, though its sources are not interviews and observations, or systematic content analysis, but the reflections of one person 'inside' the case.

- 1 Think about this paper as the starting point for research.
- 2 Given these ideas, how might you turn them into operational research? In other words how might you design a research project (or projects) that might give these ideas some substance? In doing this you may want to transpose the arguments to cases that are more familiar to you, and you should also think about how you might apply mixed and multi-methods.
- 3 Again list the methods, qualitative and quantitative, that might be possible and select three that would be your first choice explaining why you think these would be most useful.
- 4 If you proceeded with this study what problems would you expect to encounter and how would you deal them?
- 5 What would your study hope to show?

*There is no feedback to this activity*

## Case study, measurement and mixed methods

You might be puzzled to find case study discussed in the context of mixed methods. The term case study is often taken to be synonymous with qualitative methods, for to study 'cases' seems to imply looking up close and being drawn into the world of alternative perceptions and different views about common and shared tasks and workplace contexts. But there is no reason why cases cannot be measurement-based. Accountants might look at a school or a course, a hospital or a project primarily through a balance sheet and a social statistician or demographer could approach the study of a neighbourhood or a local service through an analysis of census data. These methods can be used alone or combined with qualitative methods to investigate cases by mixed method approaches.

In fact many quantitative research approaches are easier to use in a mixed method context now than they used to be, since many databases are accessible, and available for interrogation on-line. Indeed such approaches have become much more common as many education systems have accumulated achievement test data on total populations of students (where before they would have had mostly small patchy samples).

So the scene is set for mixing methods. Databases can be searched for anomalous figures or gaps and contradictions in the numerical data that can be used as leads to be followed to identify specific case studies.

Notice the methodological shift involved here. If we use numerical data bases in this way – to identify particular cases for investigation – then, in effect, we are treating the quantitative material in an exploratory manner (inductively) and using qualitative methods to identify 'hard' data that offers explanations and identifies causes (deductively).

# Mixed methods in evaluation and reporting



## Unit overview

In this unit, we will do three things:

- 1 review the principles of evaluation in open and distance learning
- 2 demonstrate the use of mixed methods in educational evaluation
- 3 discuss some issues that are relevant to reporting strategies in evaluation in open and distance learning settings.

When you have worked through this unit, you should be able to:

- ▶ Explain the principles of programme evaluation in open and distance learning.
- ▶ Discuss the use of mixed methods in evaluation in open and distance learning settings.
- ▶ Plan, design, develop and implement a programme evaluation using a mixed methods strategy.
- ▶ Rationalise reporting approaches in specific evaluation contexts.

## Introduction

In the module *Introduction*, we indicated that we reached three conclusions in the process of preparing this module. These are that:

- 1 'mixed methods' is a rapidly evolving field of study, conceptually and practically. So, it follows that this module is necessarily about a field in progress
- 2 in research on open and distance learning, there is a shortage of well-reported studies of mixed methods (as well as a scarcity of good quality empirical studies overall). Despite the appeal and the promise of mixed methods in this field, we had difficulties in finding a selection of studies we could use as exemplars
- 3 mixed methods are used more often than reported. In those reported, details of the methodology and process are often lacking, and the issues that arise from using them are given little attention.

The fact that this is a new field should not put you off! Although you will discover areas of uncertainty and questions that are unresolved, these uncertainties also represent opportunities. Perhaps the most important aim of the module therefore, is to encourage you with your colleagues, to begin to do the kind of research and evaluation work that will make these conclusions redundant for open and distance learning in a few years time!

As we have found with the kinds of educational research we have explored already, mixed methods approaches in educational evaluation in open and distance education are also scarce. So what we will do initially in this section, is to have a look at some examples of mixed methods in a number of other settings where the empirical work is a little more explicit and easier to find. Do not be put off by the fact that these studies may be located in areas that are unfamiliar to you. What we hope is that you will be able to take ideas from them and apply them in the context of your own work.

### Activity 1 30 mins



#### A recap

You may wish to use the reading *Johnson* and *Onwuegbuzie* from your *Resources File* to help with this activity or alternatively you might like to read it later.

Before we start, and as means of recapping, list one or two points under each of the following headings to support each statement and give an example.

- 1 Using more than one method in a research or evaluation study enables the researcher to balance strengths and weaknesses.
- 2 Given any particular audience, a mixed method study has the potential to add credibility and where a single method may have lacked legitimacy for that particular audience.
- 3 Mixed method research strategies have the potential to see the phenomena under study from different perspectives and this may contribute to a fuller understanding of the question.

*The feedback to this activity is at the end of the unit ►*

## What is educational evaluation?

We have made the assumption that you will have some experience in educational evaluation and in this first brief section will merely provide an overview and some pointers to relevant reading and resources (You may like to also look at Handbook B4 in the PREST series – *Programme evaluation and its role in quality assurance*).

Generally speaking evaluation in educational settings is understood to be the **systematic collection, analysis and interpretation** of information to describe the quality and outcomes of a particular teaching intervention or

pedagogical strategy. And it remains so in settings of open and distance learning.

Evaluation may be undertaken in the context of a single event. For example you may participate in the evaluation of a half-day workshop. Alternatively you may wish to develop an evaluation strategy for a unit or course you may be teaching over a period of 10 weeks; or you may be interested in evaluating an entire three-year degree programme for instance. For the purposes of this unit, we will speak about evaluation as 'programme evaluation' where the 'programme' could be any kind of teaching and learning event or activity, regardless of the time taken to complete it.

## The 'audience' as central to evaluation

While educational texts generally discuss methods at length, there is always a prior question. Evaluation is concerned with the collection of information in order to inform judgement. It is therefore research conducted with specific audiences in mind. The key question in almost all evaluation studies (although it is not always acknowledged as such) is **who** is the information for?

Evaluations may be conducted primarily for commissioners, sponsors and funders, but they may also be conducted for project workers, teachers, students, employers and others. How these questions are answered is critical to the evaluation project, for in identifying some audiences, others are often neglected or ignored.

The choice of methods may also disenfranchise some audiences. The more expertise that is needed to understand the data, the more restricted the audience for the evaluation.

## Evaluation is about making judgements

Educational evaluation concerns itself with making **judgements** about how curricula meet identified outcomes and contributes to desirable graduate attributes as well as assessing the value and effectiveness of teaching and learning approaches. Generally in education there has been heavy reliance on quantitative methods to evaluate educational outcomes. In the context of evaluation in higher education and open and distance learning, such quantitative approaches have relied heavily on survey questionnaires that have collected data from students in ways that lay claim to objectivity and generalisability. More contemporary views acknowledge the value of qualitative approaches in evaluation in so far as they are more concerned with developing understanding of the phenomena being investigated and in promoting reflective practice on the part of the evaluator and participants in some cases. The acceptance of qualitative methods as a legitimate strategy in educational evaluation has enabled us to paint a broader picture of the effectiveness of teaching strategies and learning outcomes over time (see for example Guba and Lincoln 1989 and Fetterman 1989 as early leaders in the field).

However, given our work so far, we can see that **mixed methods** approaches in evaluation ought to go some way towards obviating the often problematic methods 'dualism' which hitherto limited our design choice in evaluation to either one method (qualitative) or the other (quantitative).

## A reminder about epistemology

You'll remember that we talked a little in Unit 1 about the importance of 'epistemology' in research design. Epistemology also plays a role in how one thinks about evaluation and the judgements one makes about choices in evaluation design and approaches. Johnson and Onwuegbuzie (2004) talk about this on pp. 14-15 if you want a clear reminder.

So epistemology is important to evaluation as well as research. My epistemology influences the way in which I conduct research and evaluation studies. Making one's epistemology explicit in reporting research or evaluation is important because as Potter (1996, p. 283) has argued, otherwise, 'the reader is not given an adequate basis for evaluating the study or knowing where to and (conceptually) to judge the study'. We'll return to the important issue of reporting in the final section of this unit.

## The purposiveness of educational evaluation

Patton (1986) has argued that the most important consideration in programme evaluation is 'utilisation'. By this he means that as evaluators we ought to be interested in undertaking evaluations that are not only useful but used!

A colleague of mine and I have recently submitted a paper for publication. The paper discusses a unit evaluation ('unit' here refers to a one semester (13 week) course of study in an undergraduate degree). In it we stated:

*The unit coordinator (the first author) believed that the unit required a systematic and thorough evaluation **integrated** with the unit re-development planning. The unit coordinator collaborated with the second author, then a senior academic in the University's Centre for Learning and Teaching Support, in conceiving a qualitatively focussed evaluation strategy. The unit evaluation in this case report is 'illuminative' (Fetterman, 1989) and provides insight into the current students' experience of the pedagogical strategies adopted especially the seminar approach to unit 'delivery', the assessment tasks and the student use of an embryonic online learning support site developed in WebCT.*

It was anticipated that the outcomes of the evaluation would inform the way in which the unit re-development could be aligned with the intentions of a University grant for which we had applied. We argued in the paper that we had a shared understanding that educational evaluation is iterative, fundamental to curriculum renewal, and requires academic teachers to 'catch themselves in the act' of teaching (after Kemmis 1989) so to speak, that is, to

be critics of their own practice. We also argued that we held central the view that students ought to be active participants in curriculum evaluation.

So we discussed our epistemology. We were open about our participative view of evaluation, where we wanted to hear loud and clear the students' voices. We also wanted to be able to make changes to the pedagogy of the unit (that is to take action) based on our evaluation in ways that were valid and legitimate so we could improve student learning outcomes. We wanted to make sure that we engaged the students as key participants.

**So we were interested in evaluation as process, content and outcomes which meant we were gathering data to be used to drive decision making about taking action for educational improvement.**

The point of telling you this brief story is that we were trying to engage with our evaluation in a way that reflected Patton's 'utilisation focussed evaluation'. We made our epistemology explicit in the way we discussed our 'shared understanding' of evaluation: we were committed to a participatory and critical epistemology and this was also reflected in the authors we cited.

Table I serves to overview the way in which epistemology as we have alluded to it, informs particular approaches to evaluation.

**Table 1 Brief summary of the dominant evaluation epistemologies/paradigms (from Phillips, Bain, McNaught, Rice, 2001)**

Paradigm	Assumptions	Comment
Positivist-quantitative paradigm	<p>Problems can be defined a priori.</p> <p>The complexity of social situations can be reduced to a string of variables which are clearly operationalised.</p> <p>There is a reliance on controlled experimentation.</p> <p>Events can be explained in terms of cause and effect.</p> <p>There is one 'right' interpretation.</p>	<p>There can be value in seeking to quantify measures. However, people and the complexity of social interactions cannot be reduced to clearly defined variables, and it often is impossible to produce matched groups of people.</p>
Constructivist-interpretive - qualitative paradigm	<p>There is a focus on exploring the dynamics of interactions with the emphasis on the world as a socially constructed reality that involves multiple perspectives.</p> <p>The perceptions and values of all the participants in a situation are needed in order to explore the various possible interpretations.</p>	<p>This paradigm has enriched our understanding of social situations a great deal.</p> <p>The main problem with the qualitative nature of this approach is that it does not necessarily focus on the areas which need change. Descriptions are made, but often without any form of judgment attached. This is at odds with the attempt to find appropriate ways to improve situations, which may be the purpose of the evaluation.</p>
Critical theory-post-modern-paradigm	<p>Critical theory aims to transcend the positivism of the traditional approach and the relativism of the interpretive approach by placing the process of critical reflection at the centre of the research process.</p> <p>The focus is on changing the world, not only describing it.</p> <p>The concept of praxis is important; praxis is action which is informed by theoretical ideas and by the process of reflection on existing practice. Theory and reflection feed into the formulation of new practice.</p>	<p>Action inquiry has strong links to critical theory</p> <p>In both a constructivist-interpretive -qualitative approach and critical theory- post-modern approach, understanding the dynamics and multiple perspectives of those involved is important.</p> <p>Qualitative strategies are used in both, but the distinction lies in the purpose to which the evaluation will be put.</p>
Eclectic-mixed methods-pragmatic paradigm	<p>This approach is more capable of handling the complexity of modern society and technology.</p> <p>The focus is on practical problems rather than on issues of reality and theories of society.</p> <p>It acknowledges the weakness of current evaluation tools.</p>	<p>Complex evaluation plans can result.</p> <p>The strength of this approach is the acknowledgment of the current state of the art of evaluation; there are no 'right' approaches and maintaining an open approach is essential.</p>

## Evaluation models

Patton (1990) is widely acknowledged as a contemporary leader in the field of programme evaluation and he has reviewed various models. Models essentially aim to provide a framework to help us guide our strategy. They can be useful especially for beginners. I have annotated Patton's models in Table 2. Different writers may use different language yet the models Patton outlines seem well accepted in the field. The table isn't meant to be exhaustive and we've included it here to suggest the way in which models can be helpful in conceptualising an evaluation strategy.



**Table 2 Evaluation models (Patton 1986, pp.116-139)**

Model	Focus	Characteristics
Goal –free evaluation (after Scriven 1972)	Intended outcomes	Gathering data on broad range of actual effects and evaluating importance in meeting demonstrated needs only outcomes are measurable not goals inductive strategy enables evaluation not to be constrained by narrow focus on goals
Responsive evaluation (after Stake 1975)	On humanising and personalising evaluation naturalistic illuminative transactional connoisseurship evaluation	Gathering data first hand from stakeholders responsive to various stakeholders sensitive to various perspectives is adaptable to evolving observations interested in processes under evaluation description and understanding
Utilisation-focused evaluation (Patton 1986)	Move beyond formal models to 'practice oriented' approach as a 'strategy' focus on intended use by intended users	Active-reactive-adaptive evaluation decisions about processes allows strategic decision making about evaluation advocates methodological flexibility

You'll notice how the models here reflect the paradigms or epistemologies in Table 1.

In other areas of social research, others models of evaluation hold sway. For example in public health and health promotion settings, programme evaluators often talk about **outcome evaluation, impact evaluation** and **process evaluation**. The Victorian Government in Australia (<http://www.vic.gov.au/health>) has produced a number of 'practice guides' related to health promotion evaluation where they discuss these three key models or typologies of evaluation for health promotion.

**Process evaluation** is understood as involving all aspects of the programme being evaluated. In this case the programme implementation strategies are the focus.

**Impact evaluation** aims to determine the impact or influence the programme has had. You can appreciate that this may be difficult to ascertain as the effects of the programme may not really be known within the confines of the evaluation timeframe. In health particularly, health promoting interventions are very often long term projects. It may still be possible to do an impact evaluation if one constrains the evaluation to immediate or short term effects.

**Outcome evaluation** refers to measurement of the long-term effects of a programme. We can think about this I guess in the same way that one can think about longitudinal research. Here we would be interested in measuring whether the completed programme met its defined programme goals.

The choice of framework of model will be determined by an integrated assessment of the programme to be evaluated, the interest of stakeholders and your judgement as the evaluator.

Often in educational settings, we will talk about **formative evaluation** and **summative evaluation**.

**Formative evaluation** generally refers to evaluation that is undertaken during the course of a teaching and learning event or programme. Information that arises from the formative evaluation can be integrated into the event or programme as it is being undertaken to effect change and improvements.

**Summative evaluation** generally refers to that which occurs at the conclusion of a teaching and learning event or programme. Summative evaluation is largely goal oriented or outcome focused so that it measures success (or otherwise) against the original programme objectives.

## The ‘pragmatics’ of doing evaluation

We’ve reviewed briefly the nature of educational evaluation, reflected on the place of epistemology as a conceptual informant of evaluation design and looked at a number of different models of evaluation. Perhaps now is an appropriate time to get to the pragmatics of designing an evaluation strategy using a mixed methods approach. Before we proceed, do the following task by way of a summary.

### Activity 2 1 hour



#### Developing your own model

Models such as those outlined above, with variations, are reflected in the literature of evaluation in educational and other social research settings and disciplines.

- 1 Reflecting on our discussion so far, develop your own model: a diagram/list/table/concept map, whatever helps you explain your current understanding of ‘evaluation’.
- 2 See if you can find one or two colleagues and ask them to do the same task.
- 3 Compare the responses! No doubt they will be different but we anticipate that there will be similarities.
- 4 Generate a new illustration based on the comparison where you include or perhaps delete issues or facets that you may not have included or thought about which your colleagues may have.

Keep the new illustration near by and you can add to or alter it as we progress.

*The feedback to this activity is at the end of the unit ►*

## Using mixed methods in evaluation

We want to continue using some examples to demonstrate the practicalities of using mixed methods in evaluation. We've already acknowledged that examples from the open and distance learning literature are limited. You will have gathered however that we are not averse to drawing on cross-disciplinary studies to add to our understanding of the field of mixed methods.

The next section requires you to critique two papers. We'll provide some guidance for your critique. We anticipate that the act of undertaking the guided critique will highlight the strengths and limitations of mixed methods in evaluation and help you understand how to use mixed methods effectively and appropriately in your own professional practice.

While we don't want to oversimplify the intellectual work and conceptual thinking that must precede designing an evaluation study, let's be pragmatic and make some statements about what constitutes 'good' evaluation design regardless of epistemology or models. We accept that there are no perfect designs. We also accept there are certain design principles that can assist you to design an evaluation to confront the challenge 'to find out what information is most needed and most useful in a given situation, and then to employ those methods best suited to producing the needed information' (Patton, 1986, p. 197). Activity 2 aimed to get you thinking about these issues so let's review those issues here.

Essentially, any evaluation design ought to be informed by questions such as:

- ▶ What was needed? Why was the programme established?
- ▶ Does it meet identified needs?
- ▶ What 'goes on' in the programme? How is it structured? Who is it for?
- ▶ Are the programme goals met?

What are the programme's outcomes?

- ▶ Is a cost benefit comparison needed? Does it add value to the organisation?
- ▶ Should the programme continue?
- ▶ How can it be improved?
- ▶ Is there any 'causal mechanism' between the programme goals and its outcomes? In other words is there evidence that the programme created the desired change or had the desired impact?

Given these kinds of questions, let's look at some principles of evaluation design.

## Some evaluation design principles

Be clear about the purpose.

Patton (1986, p. 150) makes some strong and persuasive claims about what makes 'good' evaluation design. He argues:

*Purpose is the controlling force in research [or evaluation]. Decisions about design, measurement, analysis and reporting, all flow from purpose. Therefore the first step in a research process is getting clear about purpose ... Standards for judging quality [in research and evaluation] are different. Expectations and audiences are different. Reporting and dissemination approaches are different. Because of these differences, [evaluators and researchers] must be clear at the beginning about which purpose has priority. ... With clarity about purpose and primary audience, the researcher can go on to make specific design, data-gathering and analysis decisions to meet the priority purposes and address the intended audience.*

Developing several key questions to orientate your thinking about purpose is helpful.

The stages involved will generally be:

- ▶ identify the stakeholders
- ▶ identify the potential audience
- ▶ decide on the method, informed by the purpose/objectives consideration of sample sizes and sampling technique
- ▶ collect the data
- ▶ develop data collection instruments
- ▶ pilot test if necessary and feasible
- ▶ analyse and interpret the data
- ▶ develop the report
- ▶ disseminate the findings
- ▶ implement the findings: take action.

### Activity 3 2 hours



### Critiquing two readings

You will need the two readings *Powers* and *Pinheiro* from the *Resources File* for this activity.

- 1 In this activity we want you to focus your critique on how well you think each paper exemplifies the use of mixed methods in programme evaluation.

- 2 Use the *Design Checklist* in *Appendix 1*, to critique these two papers.
- 3 Use the checklist table so that you can annotate easily and clearly how each paper fulfils the expectations of a 'good' mixed method design that the checklist summarises.
- 4 Take note of any criticisms that you may have of the paper methodologically.

## Notes

- 1 Don't get too worried about the substantive disciplinary content of either paper; this task is about analysing the justification for the evaluation design and choice of mixed methods. We'll return to these papers after the next section to review their claims as legitimate reports of the stated evaluation.
- 2 The Powers paper is long, but it serves our purposes. The field of environmental education may not be yours; however, if you take a 'principles based' approach to your review, then the paper can offer some instruction in the 'doing' of mixed methods evaluation.

*The feedback to this activity is at the end of the unit ►*

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## Standards in research

A North American consortium of professional education associations has published *The Program Evaluation Standards*, to support evaluation approaches in any setting. In the view of this consortium, evaluations must have four identified basic attributes, **utility**, **feasibility**, **propriety** and **accuracy**. (<http://www.wmich.edu/evalctr/jc/>)

**Utility standards** mean that the evaluation serves the needs of intended users.

**Feasibility standards** mean that the evaluation is realistic and prudent.

**Propriety standards** require that all aspects of the evaluation be conducted ethically and legally with due regard for the welfare of all concerned.

**Accuracy standards** require that the evaluation will reveal and convey technically accurate information.

The details of these are included in *Appendix 1*.

(As an aside the group at Western Michigan publish a free online multi-disciplinary *Evaluation Journal* at [http://evaluation.wmich.edu/jmde/JMDE\\_Num001.html](http://evaluation.wmich.edu/jmde/JMDE_Num001.html))

Standards such as these serve to formalise the accepted principles of practice that govern evaluation as it is understood by a particular professional community. These standards are approved by the American National Standards Institute (<http://www.ansi.org/>).

The standards may help you as you develop your thinking about evaluation generally and also assist you to conceptualise the kinds of issues that you need

to bear in mind in designing mixed methods approaches to evaluation studies yourself.

This part of the unit has reviewed the principles of evaluation in open and distance learning and used an evaluation study reported in the literature to develop your capacity to critique a mixed method evaluation study. In doing so we have analysed the way in which effective mixed method evaluation studies may be developed and implemented. The following brief final section explores issues in reporting mixed method evaluation studies.

## Issues in reporting mixed method evaluation studies

Reporting or 'writing up' the kinds of research and evaluation studies that we have explored in this module can be demanding. Importantly, the nature of the writing up (style, structure, tone etc) will be heavily influenced by the anticipated audience of the report.

Writing in the *Evaluation Journal of Australasia*, Greene (2002, p. 23) reminds us that 'evaluative results cannot be generated from a neutral position within the politics of the contexts within which we work'. What she is arguing here is that evaluation practices are deeply entwined with politics and can be 'a powerful contributor' to our professional domains. She believes that mixed methods in evaluation have the potential to actively invite 'diverse ways of thinking and valuing to work in concert towards better understanding' (p. 24). And documenting the results from any such evaluation is integral to the success of the evaluation and the way in which its outcomes or recommendations will be used to improve the project being evaluated.

### Activity 4 30 mins



#### Mixed-method evaluation

Read the *Greene* paper from your *Resources File*.

*There is no feedback to this activity*

### Activity 5 1 hour



#### Comparison of two papers

Compare the presentation of two papers you reviewed in Activity 3.

*The feedback to this activity is at the end of the unit ►*

## Structuring the evaluation report

Let's take Powers' paper for demonstration purposes and highlight its structure.

### Title

There is the **title** which may seem self explanatory but it is well to remember that the report title is an important introduction to the reader. In the paper I mentioned earlier that my colleague and I have recently submitted for publication, two of the three reviewers argued that the title didn't reflect the thrust of the paper's argument. This was highly embarrassing to us, but have now changed it according to the reviewers' advice! (This highlights an important issue which we will discuss later and that is the value of having your report read critically by others prior to finalisation.)

### Abstract/executive summary

In this case as we are talking about a paper for an academic journal the **abstract** provides the summary. Alternatively in an evaluation report there may be an **executive summary** that summarises the report and often includes **recommendations** as well (these are also repeated in the body of the report). Abstracts need to be written with care because they are often used by librarians to index articles. The terms you use in the abstract may therefore determine how your paper is accessed in on-line and other searches. The abstract should therefore contain the key words that you want to identify your paper:

### Introduction/background: setting the context

The **introduction** often describes the background and context and may be separated with sub-headings. It may also describe the structure and intent of the forthcoming report. While there is no sub-heading, Powers section is quite long as she explains the PEEC cooperative which in itself is quite complex. It's important to write enough about the background of the study so that the reader understands the context of what is to follow. The skill is deciding when enough context is enough and not too little! This is where your critical reader friend or colleague can be helpful.

### Body of the report

In the **body** of the report the text can be structured in ways that accommodates a description of and rationale for the **evaluation method**. Details of **stakeholders**, the kind of **information** that is sought, relevant **data collection, analysis** and **interpretation** will be included here. Importantly the presentation of this kind of data ought to make use of diverse and appropriate **presentation strategies** such as illustrations, graphs or other non-textual illustrations.

**Findings** will normally be presented in the body of the report and a **discussion** of findings will follow subsequently.

The method and analysis will determine the presentation of findings. In Powers' paper, *Findings and discussions* are placed under a combined heading. I might have reorganised this section and separated the findings from the discussion. I might have had 'strengths and weaknesses' as the first sub-heading for example. However, I still think it reads well enough as it is. What do you think?

The body of the report also allows you to include interpretations or findings that that may have emerged from the data collection and analysis and which may not have been a key focus of the evaluation. The links between findings and interpretations need to be both convincing and explicit. Powers confronts this in her report on p. 26.

## Conclusions

Powers annotates six major **conclusions** from the complex multi-programme evaluation which her group undertook. The conclusions evolve realistically from the discussion and are written succinctly. They are convincing statements based on the data presented and the analysis developed.

## Recommendations

Similarly the **recommendations** flow rationally from the conclusion. She has separated them into groups, pragmatic recommendations and research recommendations, for easier reading and they seem to be a natural separation. I wonder whether the recommendations might have been more specific. They seem broad and I wonder whether the stakeholders might have been looking for more concrete recommendations; by this I mean clearer directions about how to 'facilitate networking' and how to actually 'develop recognition of community partners'.

Appendices are an important component of any detailed report and careful consideration ought to be given to using the appendices to put material that might overwhelm the body of the report. This can help tighten the report.

## General comments about developing an evaluation report

The use of mixed methods evaluation ought to enlarge the scope of the evaluation's analysis.

## The audience

Knowing and understanding the **audience** for the report is integral to decisions about writing the report and the forms or forms it may take. If you



appreciate the audience and their needs and expectations, you will be able to write a report for **impact, influence, persuasion** and **change**.

Your findings will need to be tailored for your stakeholders. By this we mean the way the findings lead the structure of the report not that they are manipulated! Rhetorical devices can be highly influential.

The organisation of the report is crucial to ensure that the study's findings will be influential to specific audiences.

Particular audiences may be interested in specific sections of the report. You may want to consider the need for any adaptation of the report for particular stakeholders or audiences. This may mean that the report is not always a written document. There might be instances where the findings and recommendations are presented in other ways, for example as a workshop or seminar presentation.

## The ethics of developing the report

Depending on the context of the evaluation study, you will need to consider the way in which you **present data** collected from participants or informants. **Confidentiality** is crucial in mixed methods evaluation where qualitative strategies such as interviews have been a key investigative data gathering method. **Anonymity of participants must be preserved** in any documentation about the evaluation, if it was guaranteed as part of the conduct of the study. This is tied up with the ideas around the politics of research and evaluation which we have discussed in this module and others. In small evaluation studies, where participants may be easily recognisable, you may need to negotiate around issues of confidentiality especially in reporting.

## Start writing early

We suggest that writing early and often will contribute to the development of a 'good' report. Writing helps us clarify our thinking and organise our arguments. Starting a draft early will reap rewards in the longer term.

## Enlist a critical friend or friends for critique

It's important to make sure that your project team reviews the completed report. In a perfect world, you would have the team who has assisted in the evaluation with you, working collaboratively on developing the report. In any event, having one or two people to review the report to see if it achieves its purposes is important. Ideally, the report will also be edited prior to final submission or printing.

## Style

The writing style that you chose will depend largely on the audience as we have already discussed. Further, it is advisable to remember that you want to be able to persuade the audience. So the use of a variety of presentation

options will contribute to developing an appropriate style for the identified audience. Sensible use of appendices, charts, graphics devices for example in a written report can make a major contribution to the clarity of the report, which in turn, will influence the report's impact.

## Summary

In this unit we have taken a fairly pragmatic approach to looking at the use of mixed methods in educational evaluation. In the absence of some well-described open learning or distance education examples, we have drawn on several other disciplines in an attempt to take a rather 'principles-based' approach to the application of mixed methods in education evaluation. Given your backgrounds and experience we anticipate that you'll be able to draw on the studies we've analysed here and apply them to your own settings. In summary then, the unit has:

- ▶ Explained the principles of programme evaluation broadly so you can apply them in your own settings in open and distance learning.
- ▶ Drawn on several current research and evaluation papers in an attempt to assist you to develop the capacity to plan, design, develop and implement a programme evaluation using a mixed methods strategy.
- ▶ Rationalised reporting approaches in specific evaluation contexts.

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## Feedback to selected activities



### Feedback to Activity 1

#### **1 Comments on 'Using more than one method in a research or evaluation study enables the researcher to balance strengths and weaknesses.'**

Using one method also accommodates triangulation where, for example, claims can be compared from different data sources.

The use of survey questionnaire as sole data gathering strategy can be limiting.

Focus group interviews can usefully precede questionnaire design.

Individual interviews can extend findings from a survey questionnaire.

Using one method may assist in generalisability.

#### **2 Comments on 'Given any particular audience, a mixed method study has the potential to add credibility where a single method may have lacked legitimacy for that particular audience.'**

Findings from research or evaluation studies ought to speak clearly to the intended audience and also be transparent to audiences who may be peripheral to the study, but still interested in its findings. Politics and power is alive and well in the methodological arguments you will have come across in other sections of this unit and in other units you may be studying concurrently!

The audience for research and evaluation studies are often highly influential in relation to progressing outcomes from stated research findings. This is

especially so in relation to research and evaluation in publicly and privately funded organisations. The politics of method can be instrumental in how decisions and judgements are made.

While we may hope that the paradigm wars are dead, it is still often the case that people will make judgements (as we do!) about the rigor and authenticity of research based on their own backgrounds and predispositions of what constitutes valid research.

Combined methods may enhance acceptability in cases where die-hard quantitative researchers may not be convinced of the findings from purely qualitative studies

### **3 Comments on ‘Mixed method research strategies have the potential to see phenomena under study from different perspectives and this may contribute to a deeper understanding’.**

Attempting to ‘know how’, ‘know what’ and ‘know why’ are fundamental questions in research design. Finding research or evaluation strategies that can gather data to answer all three broad questions is appealing and it can also provide for triangulation and converging views.

For example, we may be interested to know if a new teaching strategy influenced student satisfaction and how it did. Students may be interviewed for the ‘knowing what’ aspect and examination results may be compared and statistically analysed for the knowing how aspect.

## Feedback to activity 2

I’ve taken this example from The health communication unit at the University of Toronto ([http:// www.thcu.ca/infoandresources/evaluation.htm](http://www.thcu.ca/infoandresources/evaluation.htm))

- 1 Get ready to evaluate
  - a Clearly define parameters of the collection of information (e.g. personnel, time, financial resources)
  - b Identify key stakeholder groups and their desired modes of participation
- 2 Work with stakeholders
- 3 Describe the programme
- 4 Design the evaluation
  - a Select the types of evaluation to be carried out
  - b Consider possible data sources and measurement methods
  - c Develop timeframe for data collection
  - d Determine the nature/degree of stakeholder involvement

- 5 Collect the data
  - a Pilot test the instruments
  - b Develop data collection techniques
- 6 Analyse and interpret with stakeholders
  - a Prepare the data for analysis
  - b Analyse the data with stakeholder input
  - c Use statistical analysis
  - d Interpret data with stakeholder input
- 7 Develop and review recommendations
- 8 Disseminate findings
  - a Disseminate findings to funding body and other stakeholders in a meaningful and useful form
- 9 Take action

## Feedback to Activity 3

**Paper 1:** An evaluation of four place-based education programs: Amy Powers

Expected criterion	Powers paper
Purpose identified unambiguously	Abstract summarises paper. Background to place based evaluation outlined p. 17. PBE described and its rationale discussed in early stage of paper: Reviews several related research and evaluation studies (p. 18).
Key questions identified	Purpose of study noted last paragraph p. 18. Isolates three objectives of the Evaluation Consortium on p. 18. Seemed like a potentially complex undertaking to evaluate four large projects. Therefore established project team. Key questions noted in 'Method' section p. 20.
Stakeholders identified	Identifies stakeholders as four major programmes. Seems that evaluation team was external to stakeholders. This is not clearly stated. One can presume the stakeholders in each programme (e.g. students, local community groups, teachers, CEO or management).
Potential audience identified	Not clearly.
Epistemology or conceptual framework acknowledged	Epistemology of PBE discussed briefly and outlined in Figure 1, on p. 20. but this is not about the epistemology of the evaluation.
Method justified and informed by the purpose/objectives	Method driven by a logic model. (A logic model serves as a framework for a results driven evaluation.) Likened to Patton's utilisation-focussed evaluation. Free online module here if you're interested: <a href="http://www.uwex.edu/ces/lmcourse">http://www.uwex.edu/ces/lmcourse</a> Method section is brief. Highlights that the project team called on others to assist in the design phase for the evaluation. Two key questions isolated here. Isolates mixed method approach on paragraph 2 p. 21. States it is primarily qualitative. It is not until p. 30 that the author notes for the reader that the evaluation did include other mixed method approaches e.g. survey questionnaire of over six hundred students and other adults!
Data collection described	Called mixed method but looks only qualitative: semi structured interviews and focus group interviews described methodologically on p. 21. Is this confusing? What are the implications for progress of study? However, does go on to describe 'other data collection methods; for 'triangulation'. (p. 21) Note references to Patton's 'utilisation-focused evaluation'.
Instruments outlined	Semi-structured interview schedules. Summary of data collection in Figure 2, p. 22. The description of the evaluation as mixed method and utilisation focussed in design is confusing I think. Perhaps the idea of using Patton's framework is more about the conceptual design than the method.
Pilot tested if necessary and feasible	No.
Analysis and interpretation described and justified	These next few sections are a bit confusing I think. Perhaps the paper tries to do too much in the way it is reported. Journal articles such as this have well defined word limits and I think the evaluation reported here loses something by having to stay within the probable word limit constraints of a publication such as this.
Discussion of dissemination of findings	Grouping the findings and discussion together adds to the confusion. This section isn't well structured. Perhaps more sub-headings might have helped.
Implementation of findings discussed	Recommendations are outlined on p. 28 and 30.
Evidence of meta-evaluation	This is insinuated on p. 29 last paragraph.

**Paper 2:** Assessing change in the teaching practice of faculty in a faculty development program for primary care physicians: toward a mixed method evaluation approach: Pinheiro et al.

Expected criterion	Pinheiro paper
Purpose identified unambiguously	Abstract summarises paper: Identifies it as a report of a mixed method evaluation study in the abstract. This paper is a report of a paper presented to a conference and written for the proceedings.
Key questions identified	Section A concisely outlines purposes and objectives. They identify both the purpose of the evaluation and also state their interest in seeing how well the mixed method worked for the purposes of the evaluation!
Stakeholders identified	Implicit. Stakeholders presumed to be the authors who manage the fellowship programme that is being evaluated and presumably the fellowship participants. One suspects that the Medical Faculty is also a stakeholder and the community setting who support the clinicians.
Potential audience identified	Implicit. Session delivered to conference attendees but evaluation aimed at those who conducted the fellowship and the fellowship participants.
Epistemology or conceptual framework acknowledged	Identified on p. 1 in section titled Background/theoretical framework. Not really discussed in detail which may have been more helpful for the reader if this section was expanded.
Method justified and informed by the purpose/objectives	Mixed method description transparent. Chosen as an appropriate strategy to investigate stated evaluation purpose which was to assess effectiveness of faculty development programme to promote change in teaching practices. Identified as pilot study on p. 2.
Data collection described	Rationale for choice of quantitative pre-post test design made.
a Instruments outlined	Instrument for pre/post test data collection described and justified. Comprehensive description of PALS on pp. 2-3.  Describes and rationalises choice of videotaping teaching sessions. Connected video review criteria protocol with PALS instrument. Video reviews also pre/post fellowship. Description p. 3 details choice of fellows whose tapes reviewed.
b Pilot tested if necessary and feasible	Yes. Study reported as a pilot.
Analysis and interpretation described and justified	Separated PALS findings from video findings. Reporting of video findings isolates importance of ensuring consistency between two evaluators: this is important for face validity and reliability. (This issue raised again in Limitations on p. 5). Use of tables can contribute to understanding results so Table 1 and Table 2 (pp. 4-5) are useful for the audience in interpretation and understanding of interpreted findings.
Discussion of dissemination of findings	Follows findings and serves to summarise and raise issues and make comparative points which evaluation set out to do. Serves to draw conclusions that are convincing based on data analysis.
Implementation of findings discussed	Acknowledge limitations of pilot and makes statement about future progress.
Evidence of meta-evaluation	Could have been more explicit.

## Feedback to Activity 5

I'd argue that they have been presented in a format that is very similar to the research papers we have used throughout the module. This is largely because the audience for these reports will probably be academics or other intellectuals, such as you or postgraduate students, interested in the area of the particular study. Scholarly journals aren't usually read by the general public (perhaps Google and free online journals will change this soon!). As you were reading them, did you note any stylistic differences in the way in which the Pinheiro et al study is reported compared to the Powers paper? Pinheiro et al

is a report of a paper presented to a conference and written for the proceedings.

Having said this, evaluation reports often accommodate a more flexible approach to documentation and formatting than the reporting of more traditional empirical evaluation and research, especially when they are prepared for an organisational department, the funders of an evaluation project or particular community group rather than an 'academic journal'.



## Appendix 1: Evaluation design checklist

<b>Expected criterion</b>	<b>Evidence of criterion: Powers</b>	<b>Evidence of criterion: Pinheiro et al</b>
Purpose identified unambiguously		
Key questions identified		
Stakeholders identified		
Potential audience identified		
Epistemology or conceptual framework acknowledged		
Method justified and informed by the purpose/objectives		
Data collection described		
Instruments outlined		
Pilot tested if necessary and feasible		
Analysis and interpretation described and justified		
Discussion of dissemination of findings		
Implementation of findings discussed		
Evidence of meta-evaluation		

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### Unit 2

Professor Julian Elliot and Taylor and Francis Journals

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### Unit 3

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*teaching with technology: case studies, experience and practice*, London: Kogan Page (pp. 63-72)

Walker, R. 2003 'Is there anyone there? The embodiment of knowledge in virtual environments', in C. Vrasidas, and G. Glass (eds) *Current perspectives on applied information technologies. Volume 1: distance learning*, Greenwich Cn: Information Age Publishing and the Centre for the Application of Information Technologies (pp. 99-114)

#### Unit 4

Professor Anthony Onuwuegbuzie, Professor Burke Johnson and the American Educational Research Association for permission to use as a reading Johnson, R. and Onwuegbuzie, A. 2004 'Mixed methods research: a research paradigm whose time has come', *Educational Researcher* 33, 7: 14-26

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