RESEARCH ON ESD

SESSION A

BRIEF REVIEW OF RESEARCH MODELS USED IN EDUCATION AND OTHER SOCIAL SCIENCES

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NEWER MODELS Mix of Quantitative + Qualitative

SYSTEMS THINKING + INFORMATION SHARING

INTER AND TRANSDISCIPLINARY APPROACHES

COORDERATIVE ENQUIRY

PARTICIPATORY INQUIRY+PRACTICE(ACTION RESEARCH ADJUNCT)

INTEGRATION OF RESEARCH MODELS AND METHODOLOGIES
MAIN FEATURES OF THE RESEARCH MODELS

SURVEY

Data collected for large scale research designs.

Empirically managed variables reliant on statistical methods.

Emphasis on objective “context free” data.

Use of Attitudes, scores, ratings as main avenues to reach outcomes.

Emphasis on testing, measurement, representativeness leading to generalisation and predictability.

Explanations based on numerical data from representative sampling.

EXPERIMENTAL

Emphasis on control conditions.

Striving to achieve objectivity through reliable and valid measurement.

Attempts to achieve patterns of causality.

Linking initial starting points through intervention to outcomes.

Emphasis on achieving randomisation accompanied by effective use of controls.

Hypothesis testing, pretest/postest, comparisons and generalisability as hallmarks.

Situations and context tend to mirror a laboratory approach.

TESTING/ASSESSMENT/EVALUATION TECHNIQUES

Measuring achievement + potential.
Diagnoses of strengths and weaknesses.

Assessing performance

Focus on assessing a variety of domains eg cognitive, psychomotor affective, lower and higher order attributes.

Measuring the success of outcomes against objectives.

Use of summative and formative approaches.

Linking planning effectively to implementation.

ETHNOGRAPHICAL

Subject centred.

Subjective reporting.

Subject related explanation of events.

The use of narrative on the part of subjects, who can provide more relevant and original observations about situations.

Focus is on the perceptions and observations of participants relating to specific issues and which may develop over time.

Subjective, authentic, but with little non generalisable outcomes.

Provides multiple perspectives in observing and recording data.

Situation / Context specific, strong formative features allowing opportunities for informed conclusions and judgements.

Provides much data often gathered over extended periods of time making for a long term choice for a methodology.
ACTION RESEARCH

To design improvements and solutions to practical and locally based problems.

Empowering participants in research activities.

Emphasis on reflective practice.

Linking theory, practice and research with an emphasis on collaboration where possible.

The focus being on day to day professional activities and the results of well thought out interventions.

Participants are not only able to reflect on the research but have a sense of ownership which should lead to better decision being made about practice.

There is an emphasis on action, reflection, evaluation, planning, problem solving and intervention.

Participants as researchers who can reflect on practical outcomes in context specific situations; this is the essence of Participatory Action Research (PAR).

PAR requires the researchers themselves to change as well as their clients, and to adapt to change during and after the period of investigation.

Identification of relevant needs arriving ultimately at appropriate solutions.

CASE STUDY

Strong data reality but often not easy to manage.

Allow generalisations about instances and or from instance to a category.

The can recognise the complexity and “embeddedness” of social interaction and lend support to alternative interpretations.
Often provide a useful archive for future interpretations and re-interpretations used by other researchers for different purposes to the original aims.

They are often a step to action initiating and contributing policy formulation and future research planning.

Can serve multiple audiences in the reporting of research and evaluation.

The language used can often be less esoteric and therefore more accessible to a wider audience than other modes of research reporting. In this way they are more “democratic” when decisions have to be made.

Strengths

More widely and easily understood.

Have a good degree of immediacy.

Capture unique features often lost with larger scale data collection techniques.

Strong on reality.

Often provide insights into other similar situations.

Do not need a large number of researchers and can often be carried out by a single researcher.

Useful for inclusion of unanticipated events and uncontrolled variables.

Weaknesses

Generalisablity is not a strong feature.

Not easy to check reliability.

Prone to observer bias even when attempts at reflexivity are sometimes made.
Issues about selecting case studies

Getting from the stage of intial idea/s to the design.

What is lost in the process?

Dealing with superfluous concerns..

Choosing the location.

Locating, identifying and approaching informants.

Creating a meaningful context in order to cope with social/societal complexities.

Effective means of recording evidence and data.

Filing and categorisation of data.

Opportunities for reflection during the case study.

Involvement of other researchers and interviewees.

The report writing stage and who will be involved?

NEWER MODELS

SYSTEMS THINKING + INFORMATION SHARING

The systems model sets out to be holistic and is neither positivist or reductionist. It attempts to make sense of linkages within a system and with other systems where necessary. The object is to see the “whole picture” and it therefore uses a number of methodologies when it is used as a research model in which Information Sharing is a key element.

Ref: http://learningforsustainability.net/research/systems_thinking.php
INTER AND TRANS DISCIPLINARY APPROACHES

Interdisciplinary approaches involve crossing boundaries and creating new knowledge and methods of inquiry. The disciplines can be closely related as within the physical or biological sciences, or between the sciences and humanities/management studies. Transdisciplinarity is a related model which combines interdisciplinarity through participation and action research.

Ref: [http://learningforsustainability.net/research/systems_thinking.php](http://learningforsustainability.net/research/systems_thinking.php)

COOPERATIVE INQUIRY

This model is a method of working with people who have similar concerns and interests, so that they can understand the world around them. This model of research, emphasizes inquiry that involves persons that are affected by the research carried out adding to its practical outcomes. In other words, researchers be they highly trained or lay, cooperate so that the outcomes will have better chance of being achieved as well as being relevant to the needs and desires of a community.

Ref: [http://www.bath.ac.uk/carpp/publications/coop_inquiry.html](http://www.bath.ac.uk/carpp/publications/coop_inquiry.html)

INTEGRATION OF RESEARCH MODELS AND METHODOLOGIES

The distinction between quantitative and qualitative approaches to social science research is becoming ever more blurred, in view of the nature of the need to solve complex social and environmental issues. The choice of research models and the methodologies associated with them, is a key priority when embarking on research into ESD. Ultimately, the choice of models depends on the nature of the research problem/s under investigation. Furthermore, the balance between quantitative and qualitative models being used in a particular research project is yet another decision that has to be made, in order that the outcomes of the project are satisfactorily realized. Surveys carried out before the use of action and or ethnography can be valuable in some cases. This is especially true if there is a need to find out how common a problem is when examining an issue related to ESD. On the other hand, an initial exploratory inquiry using action research about an environmental issue could initiate further concern for instance, coping with day to day pollution so prompting the use of a survey model. The value
of having a set of integrated research models would therefore be among the choices that researchers could make in embarking on ESD research.

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General Reference:


Ethomas/IEUL 2009