**Week 1: Quantitative and Qualitative Research Approaches**

**TASK:** Read the following notes (underline the key terms from each section) and then complete the table below. I have deliberately tried to keep this as simple as I can although some of the concepts are complicated. Generally speaking research is divided into two main categories: quantitative and qualitative depending on the way the world is interpreted.

**Quantitative research**

Quantitative research is highly positivistic and seeks to identify universal laws and foundational truths. These laws are arrived at by measurement and quantification of phenomena in large populations. For example, it is possible to actually reduce reading to a process that can be measured by determining reading scores and equating these to grade level or chronological age. Such an approach tends to be atomistic, that is it separates out particular factors rather than considering them holistically. Foundational truths are those that are said to have always existed since the beginning of time and are sometimes described as *a priori*, that is those foundational beliefs that have to be taken into account before any research is undertaken.

Quantitative research aims to be objective, ‘neutral,’ unbiased and generalisable. It relies on hypothesis testing and falsification and employs statistical techniques to determine whether the results obtained are valid and reliable. Validity and reliability are crucial concepts in educational research but I will not go into them here. Basically validity deals with does the research measure what it claims it is measuring. Reliability refers to whether the same results would be obtained in similar situations.

Quantitative research derives from the ‘hard’ sciences – physics, chemistry, biology – and the empirical principles on which it operates have been applied to the social sciences or ‘soft’ sciences. When we say that something is empirical we mean that it derives from our experience of the natural world.

A kind of research design associated with quantitative research employs pre- and post testing, treatment groups and control groups. Quantitative methodology makes considerable use of questionnaires, surveys, assessment instruments, and rating scales and seeks to establish correlations and rankings and identify the predominant factors responsible for the phenomenon.

Quantitative research relies heavily on cause and effect and seeks to tie down the causes of phenomena and identify the most important variables and the relationship between them. It assumes the world is structured and that there are deep structure laws and patterns which are ‘out there’ waiting to be discovered or at least can be modelled to make predications.

Heavy store is placed on replicability, that is whether the same findings can be replicated in other studies; transferability, that is whether the results can be transferred to other situations; and generalisability.

In quantitative research language is often thought to be ‘transparent’. This simply means that we do not need to question the context in which language occurs, that we can ‘see through’ it to the truth without difficulty. This relates to what is known as the correspondence theory of truth, that is that what we see of hear corresponds to the truth.

**Qualitative research**

Qualitative research on the other hand is said to be ‘naturalistic’ and carried out in the field using a variety of methods such as ethnography and participant observation, narrative inquiry and storying, and interviewing and focus groups which we will return to in subsequent workshops. Ethnography seeks to describe the ways particular groups of people live, and tries to understand beliefs, norms and customs from the perspective of the people themselves. Whereas quantitative research looks for universal truths, qualitative research is more concerned with local perspectives and understandings or what are known as ‘standpoint epistemologies’, the way knowledge is constructed according to the different positions people find themselves in.

Qualitative research generates fuzzy hypotheses at best and holds that truth is always partial. It acknowledges the highly complex nature of social situations without attempting to seek closure or tie outcomes rigidly to particular causes. It accepts that there are multiple explanations for phenomena and rejects any correspondence theory of truth in favour of a constructivist position which sees knowledge as socially constructed, not a priori or foundational.

Qualitative research therefore recognises that meaning, signification, and interpretation are not unitary or transparent, but depend upon the social context in which language is used. It is therefore more concerned with the knowledge constitutive interests of those involved and employs discourse analysis and conversational analysis in an attempt to discover in whose interest is to adopt particular policies. It therefore makes considerable use of reliability audits or member checks whereby the reliability of information provided is audited by the participants in the research. Similarly it uses the process of triangulation whereby a number of different accounts are judged against each other to see if they hold up.

Whereas quantitative research is decontextualised and separates the knower from the known, qualitative research is highly contextualised and is preoccupied with voice and identity and the way power and authority are exercised, seeking to involve the lived experience of participants, and provide an opportunity for them to be heard. Qualitative research addresses the importance of emotion, affect and feeling in the way people behave and make decisions. More so than most forms of quantitative research, qualitative research takes into account emotionality, interiority, spirituality and subjectivity.

Qualitative research is not preoccupied with questions of replicability and transferability because it recognises the peculiarities of the social, spatial, historical and psychological contexts in which people live their lives. It is more concerned with establishing difference and plurality. For this reason it is often condemned for being relativistic. Validity and reliability take on a different meaning in qualitative research.

Finally it needs to be clearly understood that it is not a question of either ...or, or choosing between one of the other of these two forms of research. Some of the best research incorporates aspects of both. Very often qualitative studies are based upon initial quantitative findings which are later subjected to interrogation by extended interviewing and observation.

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| **Quantitative** | **Qualitative** |
| Positivist; universal laws; foundational truth |  |
| Measurable; quantifiable. For example, gains in reading scores as a result of using a particular program or approach.. Atomistic. Focus may be on error reduction |  |
|  | Subjective; inter-subjective; constitutive interests; values, norms and beliefs |
| Hypothesis testing. "Provability". |  |
| Decontextalised. "Separating the knower from the known" |  |
|  | Narrative inquiry; storying; |
| Questionnaires; surveys, rating scales |  |
| Correlations; rankings; factor analysis. |  |
|  | Multiple meaning, signification, interpretation; plurality |
|  | Multiple explanations; complexity |
| Correspondence theory of truth |  |
| Reliability and validity |  |
| Replicability, transferability and generalisability |  |

**TASK: Preparing for Assignment 1**

* Which type of research most appeals to you?
* What kind of research might you wish to do?
* Which type of research would be most appropriate?