RESEARCH QUALITY

Most commonly denotes the scientific process including all aspects of study design; in particular, it relates to the judgment regarding the match between the methods and questions, selection of subjects, measurement of outcomes, and protection against systematic bias,

Factors through which research quality is assessed

1. **Internal validity** examines whether the study design, conduct, and analysis answer the research questions without bias.
2. **External validity** examines whether the study findings can be generalized to other contexts.
3. **Construct validity** concerns **the extent to which your test or measure accurately assesses what it's supposed to**. In research, it's important to operationalize constructs into concrete and measurable characteristics based on your idea of the construct and its dimensions.
4. **Research reliability** refers to **whether research methods can reproduce the same results multiple times**. If your research methods can produce consistent results, then the methods are likely reliable and not influenced by external factors
5. **Objectivity** in scientific research means **proceeding without being influenced by any bias or personal opinions**. Bias is an unfair preference for someone or something. Scientists strive to reduce bias and subjectivity in their work, which is an outlook guided by their personal judgments and beliefs

DATA MANAGEMENT

Data management is **the practice of collecting, organizing, protecting, and storing an organization's data so it can be analyzed for business decisions**. As organizations create and consume data at unprecedented rates, data management solutions become essential for making sense of the vast quantities of data

Research data management (or RDM) is a term that describes the organization, storage, preservation, and sharing of data collected and used in a research project. It involves the everyday management of research data during the lifetime of a research project (for example, using

consistent file naming conventions). It also involves decisions about how data will be preserved and shared after the project is completed (for example, depositing the data in a repository for long-term archiving and access).

There are a host of reasons why research data management is important:

- Data, like journal articles and books, is a scholarly product.
- Data (especially digital data) is fragile and easily lost.
- There are growing research data requirements imposed by funders and publishers.
- Research data management saves time and resources in the long run.
- Good management helps to prevent errors and increases the quality of your analyses.
- Well-managed and accessible data allows others to validate and replicate findings.

Research data management facilitates sharing of research data and, when shared, data can lead to valuable discoveries by others outside of the original research team

CONSTRUCTION OF KNOWLEDGE

The construction of knowledge is **an active process that happens through individual or social engagement**. This implies that trainers should provide learners opportunities to socially and individually engage in the process of making meaning by using participatory methods.

Some psychologists criticize constructivism because **dominant students control interactions in the classroom while average students might be ignored** (Gupta, 2011). These critics contend that the dominant group drives the whole class towards their thinking while leaving other students behind.

Knowledge construction is a collaborative process which aims to produce new understanding or knowledge which exceeds something that anyone alone could not achieve. It is also essential that knowledge construction is based on each other's' ideas and thoughts

Approaches for knowledge co-construction

1. Practice-based knowledge research

2. Informed
3. Research-based.

Sources of research problem/topic

Theoretical source

Theory is set of assumptions about the causes of behavior and rules that specify how those causes act. Designed to account for known relationships among given variables and behavior, theories generate new research questions through deductive reasoning. A scientific theory can be a potent source for research ideas

Personal experience

Day-to-day personal experience of researcher may serve a good source of ideas to formulate a research problem. For example, a researcher observe violence suffered by a boy in a bullying. This experience may provide ideas to identify several research problems related to bullying.

Literature

Your research resources can come from your experiences; print media, such as books, brochures, journals, magazines, newspapers, and books; and CD-ROMs and other electronic sources, such as the Internet and the World Wide Web. They may also come from interviews and surveys you or someone else designs.

Contemporary issues

Refers to an issue that is currently affecting people or places and that is unresolved. A geographic issue refers to a topic, concern or problem, debate, or controversy related to a natural and/or cultural environment, which includes a spatial dimension

Research project report writing

Research reports are recorded data prepared by researchers or statisticians after analyzing information gathered by conducting organized research, typically in the form of surveys or qualitative methods

Research project topic

A research topic is a subject or issue that a researcher is interested in when conducting research. A well-defined research topic is the starting point of every successful research project. Choosing a topic is an ongoing process by which researchers explore, define, and refine their ideas.

Why research is important in IT industry

Overtime, research in IT has shed new light into various fields such as management, human behavior, finance, planning, marketing and many more. Further experimentation and interchange is required to create methodologies through which research may become more accessible and credible for the world.

Characteristic of Research Problem

Any research is a difficult task to achieve and research needs to do a great effort. Selection of research topic is the first step to success.

Research topic must be very clear and easy to understand. It should not distract people.

If a topic is well define is the only way to successful research. The topic should not create doubt and double impression.

Easy language is a key to success. Use technical words if necessary otherwise focus of simplicity.

Research title should be according to the rules of titling. There are different rules of titling, a researcher must aware before writing a research title.

While selecting a research topic current importance of a researcher should also be considered. Topic should not be obsolete and it should have great importance in the current day.