

Research Methodology: Motivation for Research

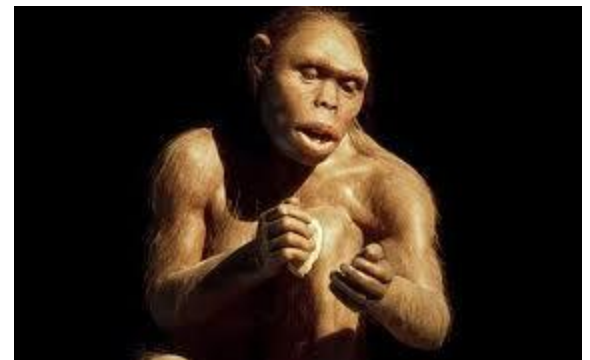
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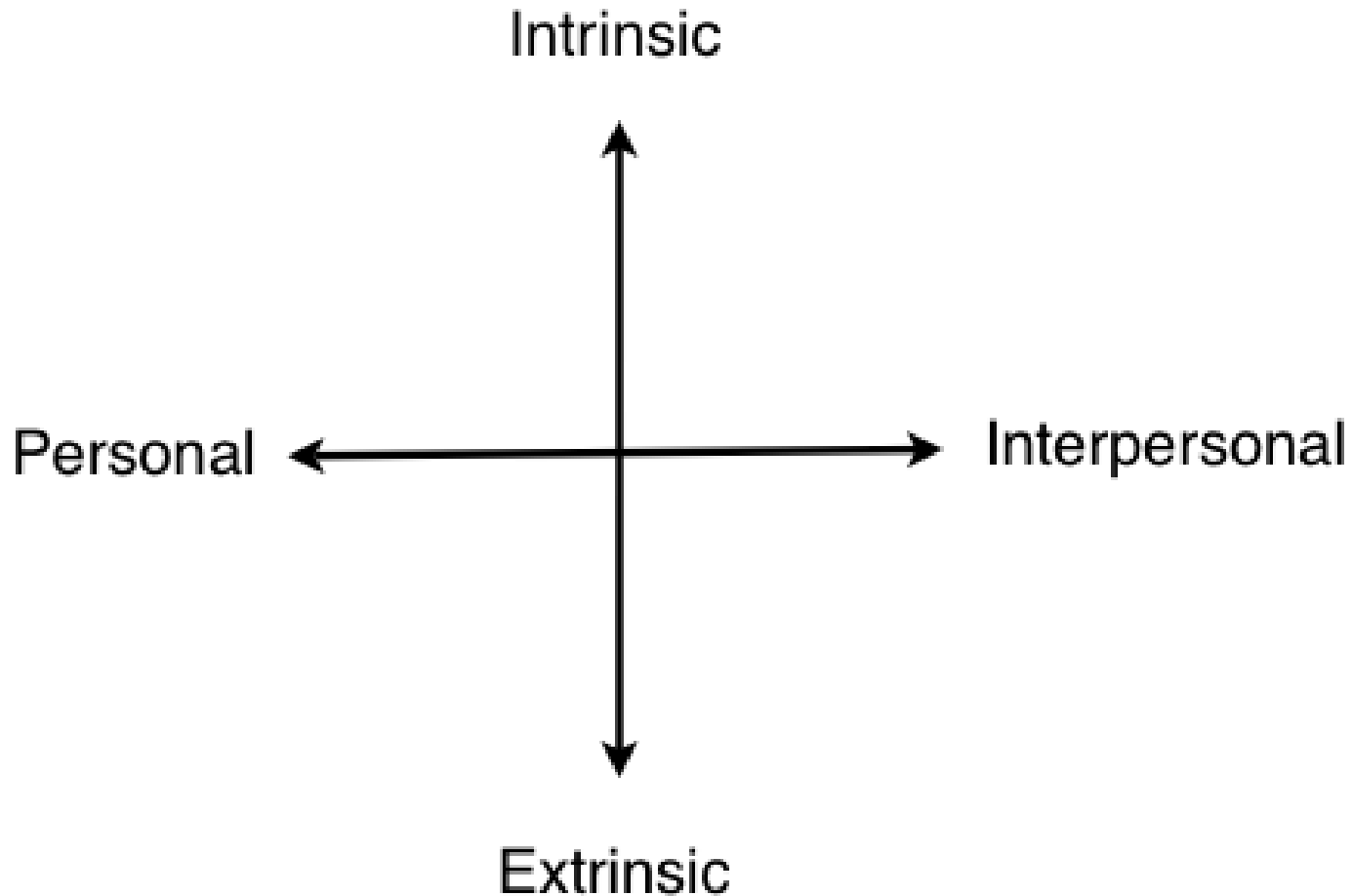
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Research.... Definition?

“The **systematic investigation** into and study of materials and sources in order to establish facts and reach new conclusions”



Research....Motivation....



Research....Motivation....

Intrinsic motivation - the love of the work itself.

Intrinsic motivations include: interest; challenge; learning; meaning; purpose; creative flow.

Research has shown that high levels of intrinsic motivation are strongly linked to outstanding creative performance.

Research....Motivation....

Extrinsic motivation - rewards for good work or punishments for poor work. Extrinsic motivations include: money; fame; awards; praise; status; opportunities; deadlines; commitments; bribes; threats.

Research shows that too much focus on extrinsic motivation can block creativity.

Research....Motivation....

Personal motivation - individual values, linked to personality. Examples include: power; harmony; achievement; generosity; public recognition; authenticity; knowledge; security; pleasure.

Each of us prioritizes some values over others; understanding your own values and those of people around you is key to motivating yourself and influencing others.

Research....Motivation....

Interpersonal motivation - influences from other people. Much of our behaviour is a response to people around us, such as: copying; rebellion; competition; collaboration; commitment; encouragement.

Research....Motivation....

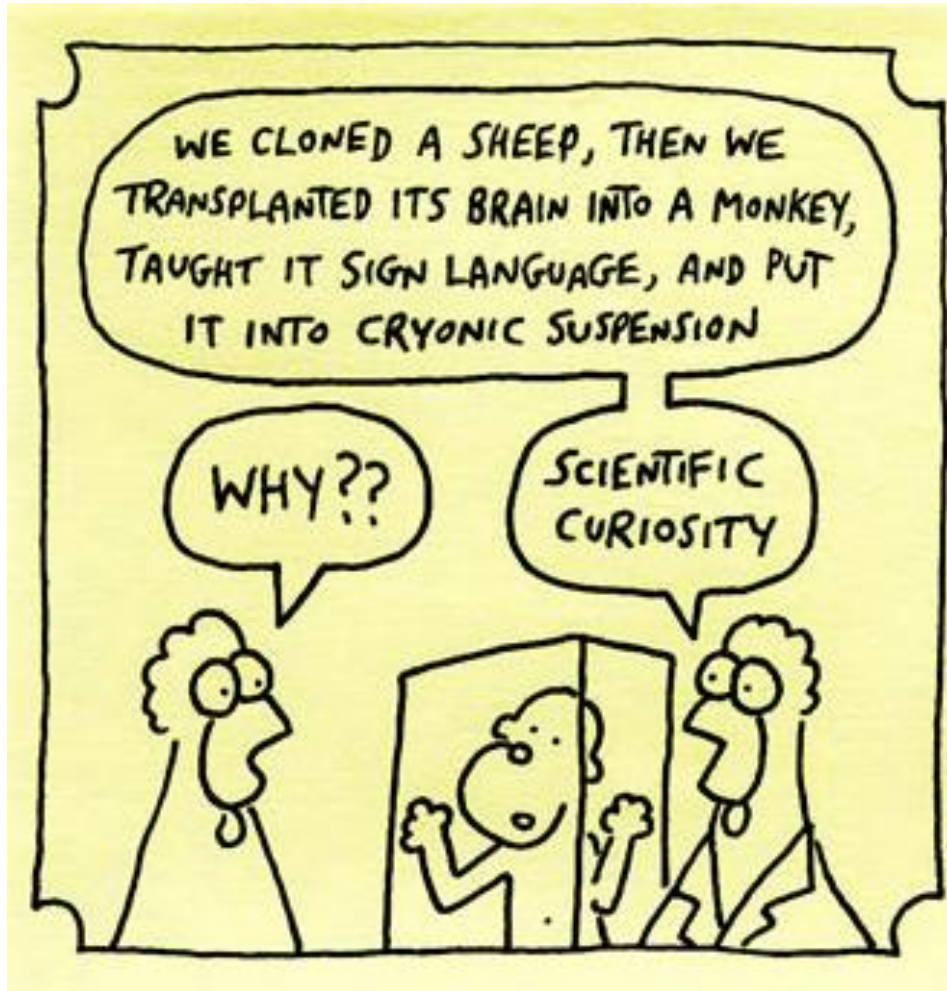
Personal

Interpersonal

Intrinsic	Personal Satisfaction	Social Interaction
Extrinsic	Personal Rewards	Public Recognition

All four of these factors are important to get success in a research activity

Research....Motivation....



Source of this cartoon is highly Appreciated and Acknowledged.

Research....Motivation....

- Motivation leading to research for search of ways out of a situation:

[The Great Dog Escape.flv](#)

Research.... A Journey....

- A strong foundation for the research is the **querying attitude**.

Everything and anything is questionable and these questions make way for a research.

Research.... A Journey....

- **Knowledge** in the arena of proposed research topic, Analytical/ Numerical/Experimental **skills** are the prerequisites for a researcher.
- The **hard work, consistency and immense patience** are a few desirable qualities of a researcher apart from the skills and knowledge . A researcher needs to be committed to the research work to find fruits in the research.

Phases of Research

- **Idea-generating phase**
- **Problem-definition phase**
- **Procedures-design phase**
- **Observation phase**
- **Data-analysis phase**
- **Interpretation phase**
- **Communication phase**

What Research Methodology is?

- The prescription of the acceptable ways of doing research
- Defines:
 - How to proceed;
 - How to measure progress;
 - What constitutes a success;

Why should we follow a methodology?

- Research does not begin with the results!!!
- Identification of needs
- Creation of ideas
- Formalization of ideas
- Testing
- Dissemination
- Refinement

Types of Research

Based on Application: 1. Basic Research,
2. Applied Research

Basic Research involves developing and/or testing new theories, models, designs and correlation that may or may not have immediate application but of immense importance from the point of view of development of knowledge base in fundamental aspects.

Examples:

- New theory annex added to electromagnetic wave theory,
- Development of analytical procedure to solve a highly complex mathematical model,
- Contribution to number theory etc.,

Types of Research

Applied Research refers to research carried out to derive a methodology, model, design or analysis for problems that have immediate application.

In case of applied research, the immediate application of anticipated solution dictates the problem for the research.

Examples:

1. Improvising the atomizer performance for application in a combustor,
2. Developing a new efficient and compact instrumentation for wireless communication.
3. Developing a new methodology for a manufacturing process, Inventing new tools of management,
4. Analysing a process or event in the light of physics to explain the phenomena reported etc.,

Types of Research

Based on Methodology:

1. Experimental, 2. Analytical 3. Numerical

Experimental Research is associated with experimental investigation of a process or theme using appropriate tools.

Examples:

1. Investigation of flow behaviour of a magnetic fluid in a magnetically resonated duct using appropriate instrumentation,
2. The performance evaluation of an internal combustion engine with different catalytic converters using required instrumentation,
3. Evolution and testing of a new strategy for product design as applied to specific class of products using the current trends in the market, etc.,

Types of Research

Analytical Research is associated with the developments of models or solution to the problems using analytical tools.

Examples:

1. Solution to a set of partial differential equations using error functions.
2. Development of an analytical tool to collect and analyse data during adoption of a new management strategy.
3. Evolution of new standards and practices for efficient product design procedure.

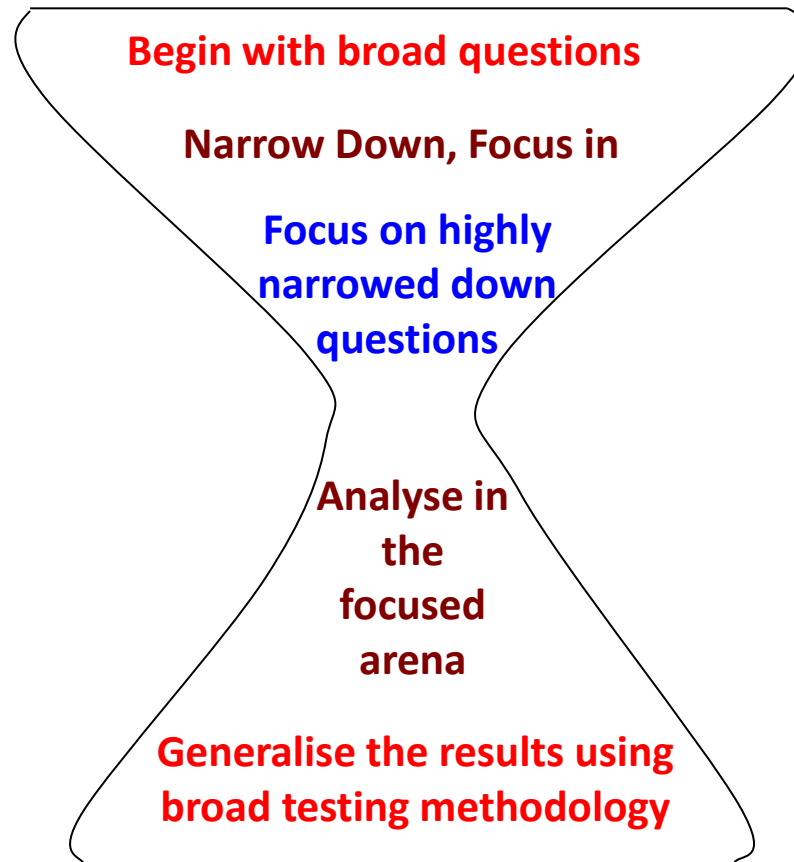
Types of Research

Numerical Research is associated with the solution obtained for a practical problem using numerical tools. New numerical tools and procedures may be evolved during this process or the available commercial numerical analysis based software may be used to solve the problem.

Examples:

1. Numerical investigation of flow of a non-newtonian fluid through a pin-hole orifice using a commercial software.
2. Development of a numerical tool to predict the fluid flow behaviour in a hypersonic flow regime.
3. Evolution of a new tool for grading the the customer satisfaction using mathematical, statistical and numerical methods.

Types of Research



Where Do You Find Solution

[Wayne Dyer - When you change the way you look at things.avi](#)

What is deterring your research?

Age?

[Oldest Graduate.avi](#)

What is deterring your research?

Are you suffering from
Low Self Confidence?

[How To Boost Your Self Esteem.flv](#)

What is deterring your research?

Are you getting boredom of your research
and learning ?

Enjoy your learning and research

[Piano stairs - TheFunTheory.com](http://TheFunTheory.com) -
Rolighetsteorin.se.avi

**No Matter You can soon become
an unchallenged Champion....**

**But of course with Hard Work and
Dedication**

[Champion.wmv](#)

Thank You