

Thinking Skills and Research Methods

***Summarized & Presented
By Dr.Engineer***

***IBRAHIM ESKANDAR
IBRAHIM FADHEL***



UNIVERSITY MALAYSIA PERLIS





Stop

STOP and take the time to think about what you're going to do. What is the worst thing that could happen?



Think

THINK about how you're going to do it. Is it the safest way? If not, how can you do it better? Do I have the right tools, training and equipment?

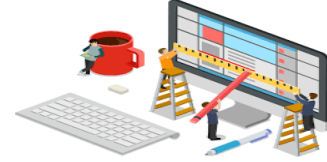


Act

ACT in the safest way possible. Follow proper procedures, don't rush, and STOP if it can't be done safely!

MAKING THE RIGHT DECISION





- ❑ **Number of good qualities**
- ❑ **Skills**
- ❑ **Communication Skills**
- ❑ **Intellectual Skills**
- ❑ **Information Technology Skills**
- ❑ **Organizational Skills**
- ❑ **Motivation**
- ❑ **Independence**

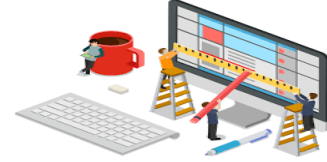




Communication Skills

- ❑ **Applying for funding**
- ❑ **Discussing your project with your supervisor**
- ❑ **Negotiating access to sources of data**
- ❑ **Conducting interviews**
- ❑ **Designing a questionnaire**
- ❑ **Leading a focus group**
- ❑ **Writing and presenting conference papers**
- ❑ **Writing your report**
- ❑ **Writing academic journal articles**





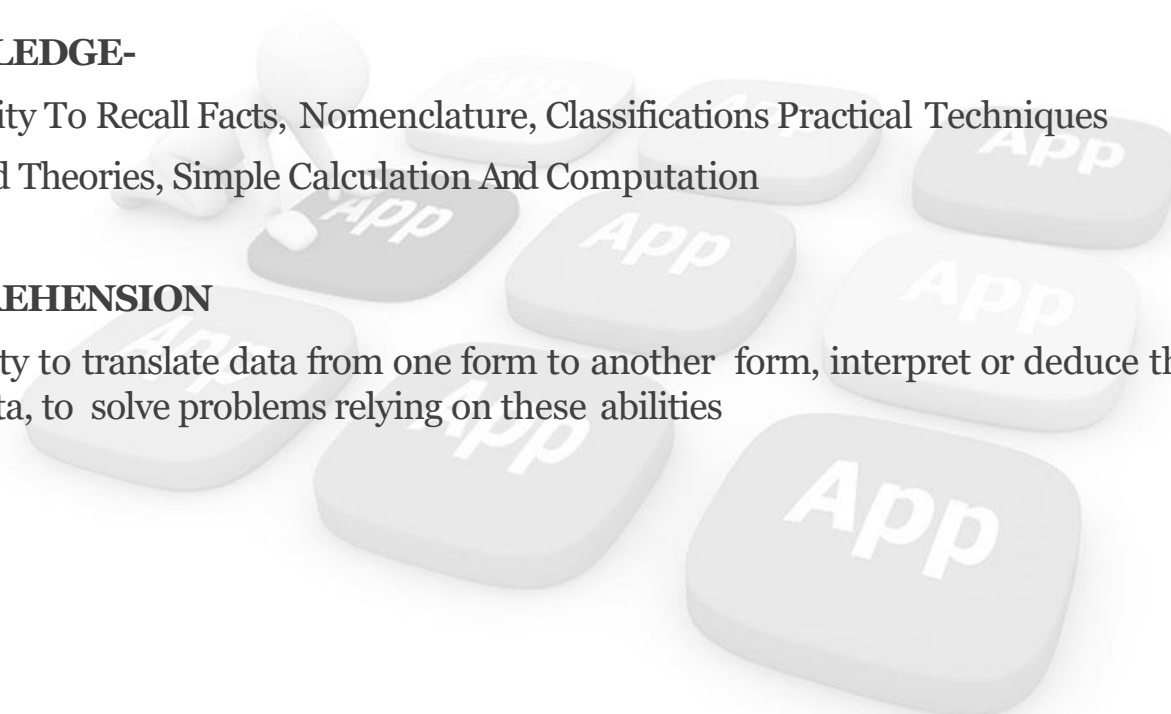
Intellectual skills

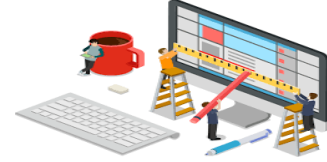
KNOWLEDGE-

The Ability To Recall Facts, Nomenclature, Classifications Practical Techniques
Laws And Theories, Simple Calculation And Computation

COMPREHENSION

The ability to translate data from one form to another form, interpret or deduce the significance of data, to solve problems relying on these abilities





What we means by:

- ❑ APPLICATION: The ability to apply knowledge ,experience and skill to a new situation presented in a novel manner.
- ❑ ANALYSIS: The ability to break down information inti its various parts.
- ❑ SYNTHESIS: The ability to build up information from other information.
- ❑ EVALUATIONT: The ability to make qualitative or quantitative judgments, to set out a reasoned argument through a series of steps, usually of gradually increasing difficulty, to criticize constructively.



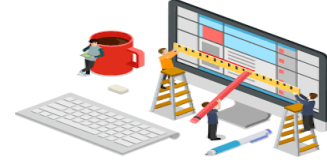
Who is A Good Researcher?

- ❑ A calm, kind hearted, obedient and respectful person with good maturity in the first instance.
- ❑ Disciplined, diplomatic, hardworking, good mannered, sincere, devoted and determined.
- ❑ Listens to others then thinks then pauses and then critically comments.
- ❑ Tries to put into practice at least to some extent what he/she says.
- ❑ A good communicator and well concentrated.
- ❑ Likes to learn new things even from kids, takes adventures and appreciates the progress and results of others.
- ❑ Patient, bold, gentle, unafraid, confidant, majestic and keeps his/her head cool under pressure.
- ❑ Believes that knowledge is acquired through training and wisdom is learnt through experience.



Information Technology Skills

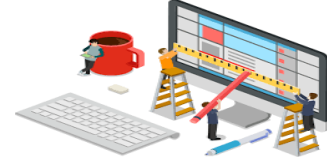
- ❑ With out computer knowledge and IT Skills ,research is not possible
- ❑ Typical features
- ❑ To design the page layout ,including margin widths, page length, line spacing and justification of text
- ❑ To highlight the text
- ❑ To move a section of text from one document to another document
- ❑ To insert and delete text
- ❑ To search for replace text
- ❑ To spell check and grammar check
- ❑ To count the number of words
- ❑ To insert the name of the author



Quantitative Skills

- ❑ Mathematical Functions
- ❑ Statistical Functions
- ❑ Financial Functions
- ❑ Graphics

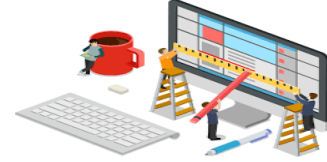




Organizational Skills

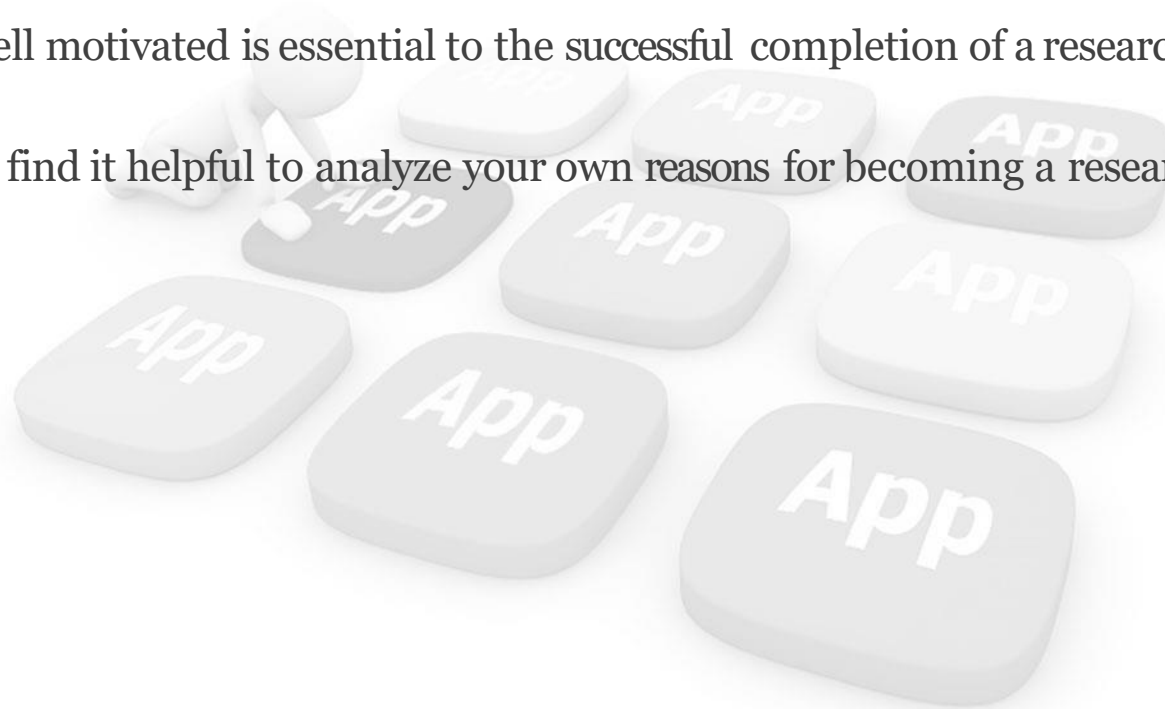
- ☐ Time management
- ☐ Negotiating access
- ☐ Writing a research proposal
- ☐ Prepare the time table for your research





Motivation

- Being well motivated is essential to the successful completion of a research project.
- You will find it helpful to analyze your own reasons for becoming a researcher.





Students Reasons For Doing Research

- I love the subject
- I love studying
- I want to be an intellectual
- I have a personal question I want to answer
- I want to be creative and useful
- I want to be a member of a research community
- I have not been able to get a job
- Employers want people with this qualification
- All my friends are doing it
- It's a part of my course
- My family/superiors want to do it



What It Means By A Good Researcher? - 2

- A motivator and encourager to others through his/her own actions.
- A good collaborator in a group, accepts the responsibility and regular to the meetings
- Uses available resources to the best of his/her abilities
- Progresses forward by accepting his/her errors
- Likes to be a life-long student with a good commitment
- Likes to gain knowledge continuously
- Sees the work and happiness as one and the same object.
- Understands that success is a journey but not a destination



The Good Researcher

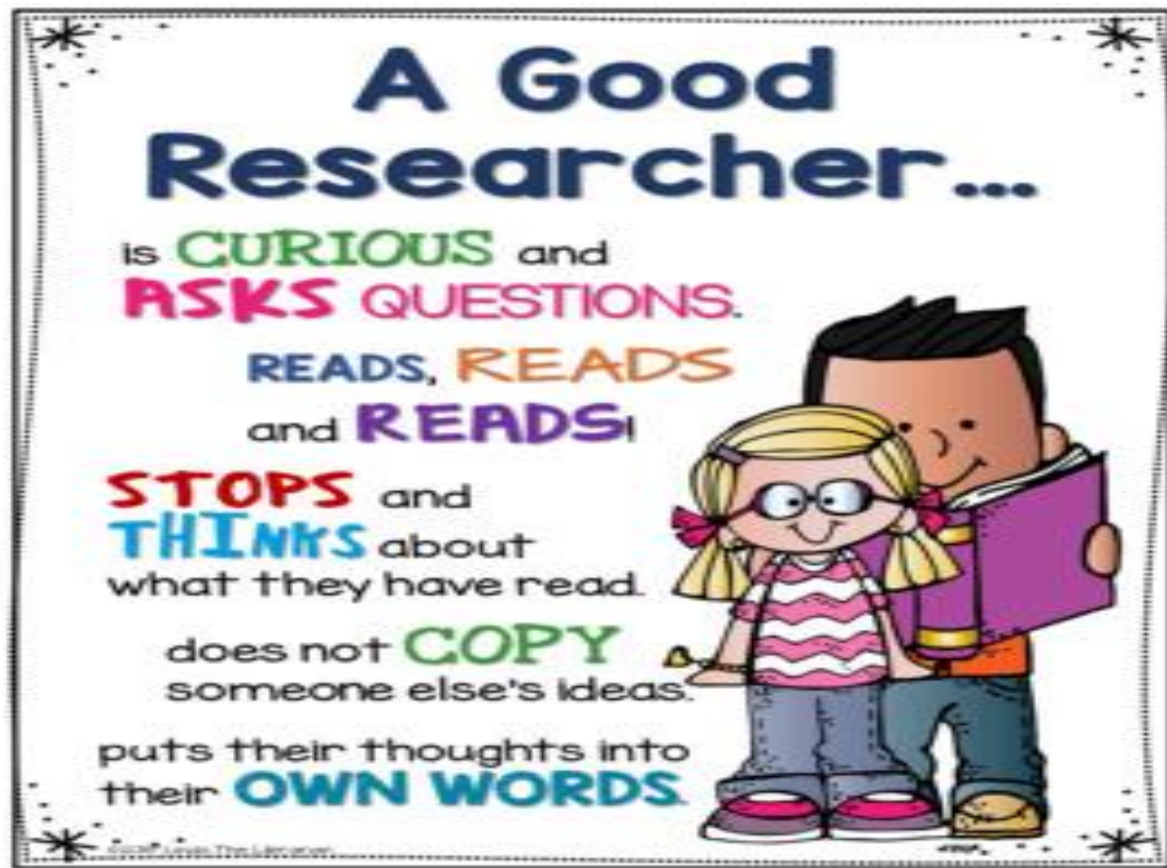
- As one class, answer the questions:
 - What are the qualities / characteristics of a good researcher?
 - How are these qualities / characteristics manifested?
 - How do we develop these characteristics?



How to become a good researcher?

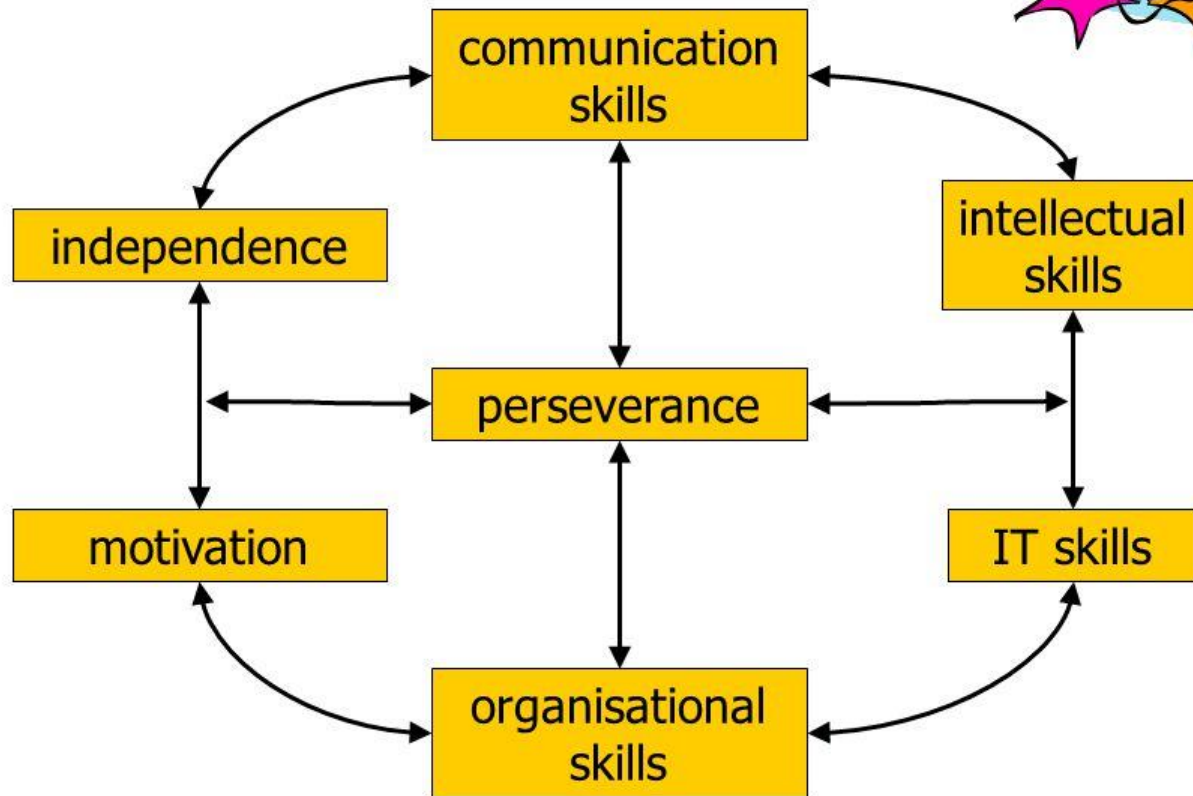
- *Be technically excellent and work hard.*
- *Don't fear mistakes.*
- *Have a vision and defend it*
- *Don't get discouraged and (almost) never give up.*
- *Learn from the past*
- *Be passion with your research*

"I am not discouraged, because every wrong attempt discarded is another step forward" - **Thomas Edison**





Qualities of a good researcher



Criteria for Doing Good Research

