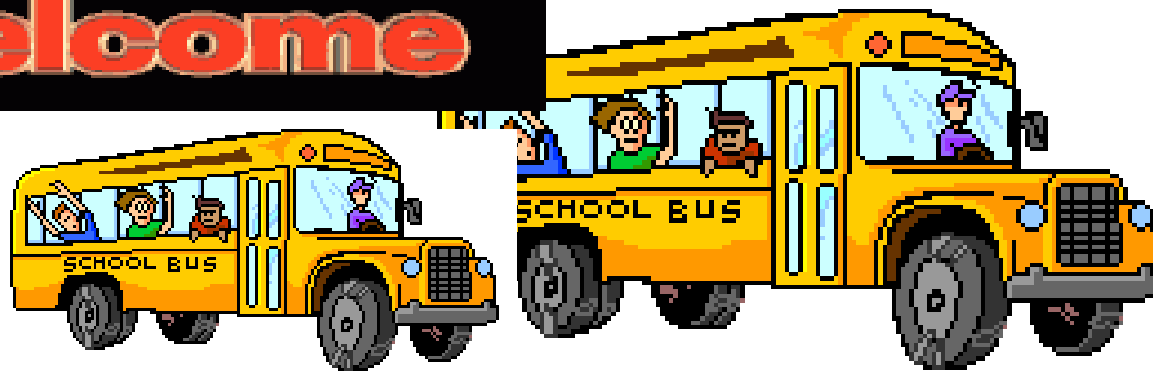


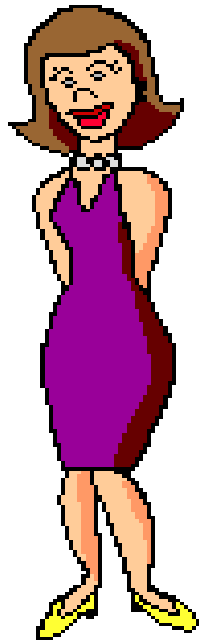
# SP\_IRS : Research in Inclusive and Special Education

**Lecture : The Research Process .**  
**Presented By: Mr. S. Kumar**  
**Lecturer Education**

**Welcome**



# Presentation Outline



roduction  
research process  
earch questions  
terms  
ivities  
clusion



# Introduction

- Central Element in your own profession.
- Effective Teachers



Reflect

Analyse

Shape the  
future  
practises

- Do you make educational decisions and engage in reflections ?
- If yes than this process resembles research
- For example, if your mathematics class if your students did not respond to the activities as per your expectation
- Reflection – which part did not work well and how are you going to improve

- This process involves
- Problem – analysis – alternative strategies

All these are parts of research process.

Research is a planned , systematic and draws on a broader knowledge base than teachers day to day decision making

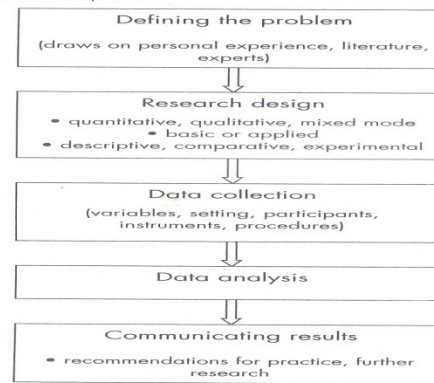
Research is a systematic process that involves

- The collection of information on a specific problem or question
- The analysis of that information
- The application of the findings to the original problem or question

Research should be seen as a process rather than just an end product

# The research process

**Figure 2.1:** The research process



Research questions

# The research Process

Step 1: The researcher defines the problem for investigation

- ❑ Problem has negative connotation
- ❑ In research it is interpreted in a more positive way as an opportunity
- ❑ all research originates from a desire to know how , what or why something works the way it does.



- For example- Piaget characterized the developing child as a hypothesis tester about the way world works and test these theories against experience.
- Such curiosity drives research process.
- Broader area of research – one must construct carefully and clearly defined research questions so that the projects are manageable
- Sometime researchers express their questions in the form of hypotheses.

# Research questions

- The fundamental questions that the researches will use to frame their research and endeavour to answer or respond to at the conclusion of the project.
- Broader educational problem – research question
- E.g. Lisa is interested in supporting the literacy learning of young children
- How is writing taught in primary classroom
- What affordance do ICTs offer in a classroom

Wilma is interested in educational outcome for gifted students

What are the qualities of effective teachers from the perspective of gifted primary/ secondary students?

What are the attitudes of principals to the early entry policy in NSW schools?

- Jan is interested broadly in authentic online and multimedia learning environments.
- How do students use a multimedia program designed to incorporate the characteristics of an authentic environment?
- What types of higher order thinking do students employ while using a multimedia program based on principles of authentic learning

- Tony is concerned by how he can make life better for obese children and their families.

What is the effect of a physical activity and dietary modification program on the health of obese children?

What are the barriers obese children face being more physically active and less sedentary?

What is the relationship between a child's body weight and their ability to perform fundamental movement skills?

Several elements are involved that informs the researchers selection and refinement of the research questions.

- ❖ researchers choices are also shaped by theory
- ❖ Relevant literature
- ❖ expertise

# Step 2: the researcher plans an appropriate research design

- Research design is the plan that needs to be done in all aspects of the study.
- How researchers select this designs ?

There are lots of ways to select research designs but one must look very carefully that research design must match the research question.

Sites

Participants

Data collection

Analysis

Coherent logical

way to explore questions



# What is data

The information gained through research to respond to the questions or hypotheses being investigated. Data are gathered to

- help the researcher make decisions being investigated.
- Comment



# What research designs includes

1. The method employed.
2. The control that the researcher has.
3. The contribution to the knowledge.
4. The nature of the question.

# Examples of the research designs used in this presentation

- Lisa (Ethnographic studies)
- Wlima ( mixed mode design that incorporated a questionnaire and focus group interviews)
- Jans (Designed based approach)
- Tonys (experimental design)

# Step 3: the researcher collects data

- Data collection methods are influenced by the design and also the research question.
- Researchers need to ensure that the methods they are using are appropriate to answer the research question they have posed

# Common Data collection methods

- Observation
- Interviews
- Questionnaires
- Standardised test
- Physical measurements
- artefacts

# Data collection method used in this presentation

Lisa (Field notes – classroom observations, semi structure interviews, reflective journal , digital photographs, work samples.

Wilma ( Questionnaire, focus group interviews)

Jans ( video of class sessions, focus groups, and interviews

Tony ( Measurement and questionnaires)

# Step 4: The researcher analyses the data

- Data can be collected in abundance and can be overwhelming
- Initial step is to manage the data to facilitate analysis.
- It is very important task in the research
  1. Researchers are engaged in interpreting data
  2. Search for meaning and not just describing their findings.

# How we can analyse data

- Computer technology

Statistical packages – quantitative data

Software – qualitative researchers in managing extensive data

. Coding

# Data analysis in this presentation

- Lisa ( transcribed all her interviews , retyped her field notes and teachers reflective journal into word. Different colours was used for each participants data. Physically rearrange the data into common categories and themes.
- Nvivo to store data and enable her to identify emerging themes and categories from these data sources



- Wilma ( SPSS – Statistical Package of the Social Science.
- Interview data (Inductive category procedure)

Jan ( Video – Video analysis package and for qualitative analysis package (nud.ist) for transcribed interview and observations.

Tony ( Microsoft excel – SAS (statistical analysis systems and also used anova (analysis of variance) to determine which of the three programs were effective

# Step 5: The researcher communicates the findings

- Final step communicate the outcomes of the research
- Contribute knowledge and this happens if results are disseminated
- Where?

- Academic journals
- Professional news letters
- Conferences
- Presentations
- PD
- Seminars
- Books
- Media interview's

# Key Terms

1. Variable
2. Independent Variable
3. Dependent Variable
4. Hypothesis
5. Sample
6. Population
7. Generalisability
8. Validity
9. Reliability

# Key Terms

1. Variable – A construct that can have different values
2. Independent Variable- An antecedent variable that is manipulated to determine its effect on an outcome
3. Dependent Variable- An outcome variable
4. Hypothesis- A predictive statement that can be tested statistically
5. Sample- A group of participants selected from the larger population

6. Population- The total group of potential participants from which a sample is drawn
7. Generalisability\_ The ability to transfer the findings of a particular research study to other context
8. Validity- A term that indicates authenticity of the data ;that is whether we are measuring what we said we are going to measure. It is vital for interpreting and generalising research

- Reliability – the consistency of our measures to produce similar results over repeated measurements.

# Activities

- Select a research article from an educational journal such as The Australian Educational Researcher or Asia- pacific Journal of Education. Identify and label the following components in the article
- An abstract that summarises the research article.
- A statement of the purpose of the study
- Research questions
- A description of the studys participants



- A description of the settings
- A description of the instruments or tools used to collect data
- A description of the instruments or tools used to collect data
- A description of the steps taken by the researcher (including analysis)
- Presentation of the results

- Discussion of the meaning of the results
- Links between the findings and existing literature
- Recommendations for practice and other research.