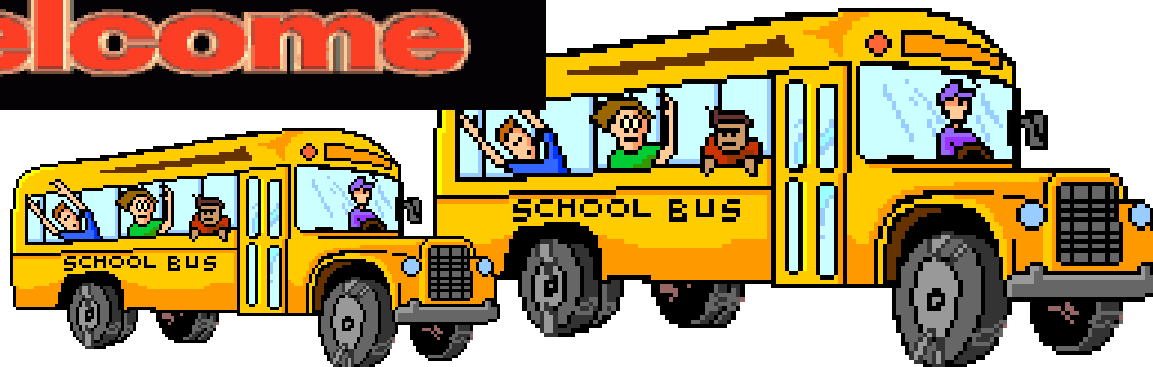


# SP\_IRS : Research in Inclusive and Special Education

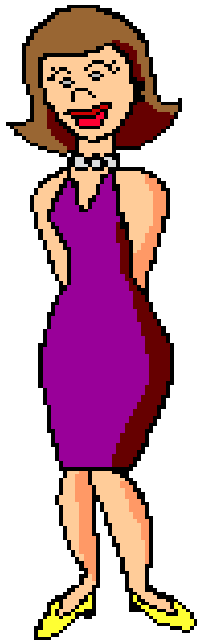
## Lecture 2 a: The Research Process and Research Questions.

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**Welcome**



# Presentation Outline



- Introduction
- The research process
- Research questions
- Key terms
- Activities
- Conclusion



# Introduction

- Central Element in your own profession.
- Effective Teachers



Reflect

Analyze

Shape  
the  
future  
practices

- Do you make educational decisions and engage in reflections ?
- If yes than this process resembles research
- For example, in your mathematics class if your students did not respond to the activities as per your expectation. What you will do?
- 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.

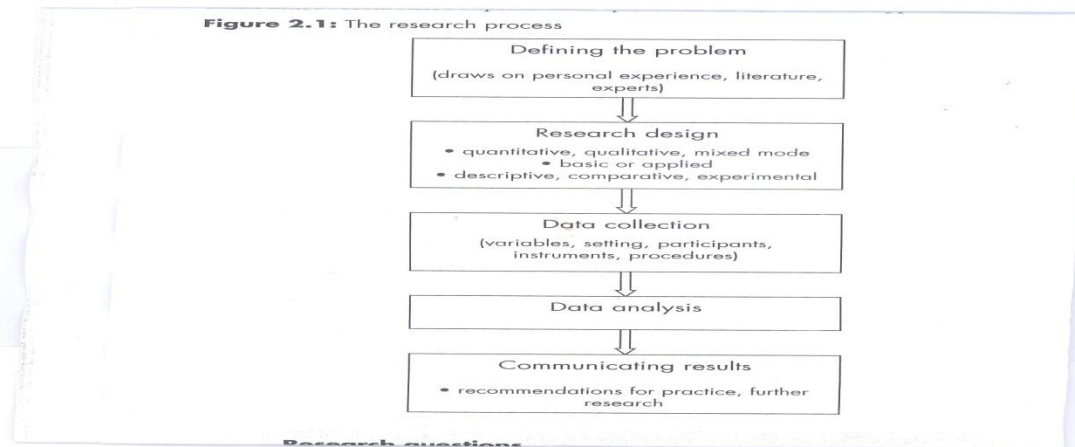
Research is a planned , systematic and draws on a broader knowledge base than teachers day to day decision making.

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



# 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 to classroom writing experiences.

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

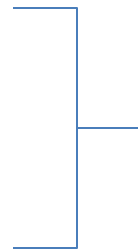
Participants

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. Realibility

# 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.

# Research Questions/ hypotheses

The research questions are the most important part of a research study plan.

- Guide the entire study
- It can be general or particular or combination of both.
- Can be refined or reformulated in the course of the study
- Above all it provides the anchor point for any decisions to be made at any time.



# Research Questions/ hypotheses

For example

When considering what sort of data collection techniques you might need, you can always ask your self: will this questionnaire/ interview/observation help to answer my research questions?

# How do you write a good research question

- Some believe that this is the hardest part
- Drafts and re-drafts to get your questions right
- And getting it right is really worth the effort
- Ask your self: What am I trying to find out here
- What questions is this research trying to answer.

# Writing good research questions

- Why it is important to write a good research questions?
- There is a saying that applies to the process of creating research questions: A question well asked is a question half answered.
- Write good research questions and often the research falls into place.

# Few simple rules about the wording of research questions

- Remember like all rules this rule can also be broken if necessary
- Try not to use a research question that can be answered with words yes or no.

For example:

- Does classroom layout affect students learning outcomes
- Does the use of prompts within an interactive multimedia learning environment facilitate reflection?

# Few simple rules about the wording of research questions

- Starting these questions with the word Can or should.

For example:

Should teachers be allowed to give students after-school detention?

- It would be difficult to even begin to answer this question. Against what criteria would you measure this?

# Few simple rules about the wording of research questions

- Can a multimedia program be designed to assist learning of creative writing?
- The answer is In many ways. Do you really want to try to identify every single means to achieve this in your research? Or do you want to test a particular approach that you think might work? Try to identify what is critical in the question

# Few simple rules about the wording of research questions

- Be wary of research questions that contain value judgment. For example:
- Is television undermining family life?
- Is plagiarism in school assignments always wrong?
- Such questions imply a judgment of the situation that might obstruct your research findings therefore not a good research question but are good titles for papers

# Some questions which are not good researchable questions.

- What regulations have been developed to guide schools in issues of copyright?
  - Narrow
  - Easily answerable
- Is online instruction more effective than traditional face to face instruction?
  - Very common question.
  - The answer will always be: It depends



# Some questions which are not good researchable questions.

- Can internal communication be effective in a secondary school?
- A better way to rephrase this question would be:
- What factors influence effective internal communication within secondary schools?

# Examples of good researchable questions.

- Can you design some ????????????



# Research Questions

The following research questions that will guide the study are:

1. What is bullying?
2. Where bullying is occurring frequently?
3. How teachers perceive bullying at X School?
4. What are some of the contributing factors that accelerate bullying in school?
5. What are some of the strategies that teachers can use to curb bullying?
6. How these changes will affect students' school life?

# Research Hypothesis

➤ Are tentative , but intelligent and informed, guesses about the findings of a study, made of course before the study begins.

➤ Is a testable statement of a predicted relationship

➤ For example, a research question such as:

Do children whose parents read to them more than three to four times a week, show higher readings achievement in year 2 than students whose parents read to them less regularly or not at all?

In a hypothesis, this area of research might be worded this way

- Children whose parents read to them more than three to four times week, will show higher reading achievement in Year 2 than students whose parents read to them less regularly or not at all.

# Hypotheses

- Used for experimental or quantitative research

# Looking ahead



Quantitative and qualitative research designs

Coming Soon

# Thank you for attending this lecture

"Teachers affect eternity. They never know where  
their influence stops." [Henry Adams](#)

**THANK  
YOU!**

