

Intro of METODOLOGI PENELITIAN

**(from Writing for Computer Science, a few Lecturer's notes
and my writing)**

Goal

- Skill in Research in Informatics
- Proposal Research → for PKM, KP and TA
- Source: My Blog and G+
- Grade :
 - Proposal PKM
 - Proposal KP
 - Proposal TA (2)

Research



Rock in delta of river



Next...

Need to know what those's
Composition (research)

Informatika 2009
really like cheating on exam



~ 50 %

Next ...

Need to know the motivations (research)

- An Activity that contributes to the understanding of a phenomenon (Kuhn, 1962)
- The systemic process that collecting and analyzing information in order to increase our understanding of the phenomenon about which we are concerned or interested (Leedy and Omrod, 2001)

- To do 'research' is to investigate the problem systematically and thoroughly
- Goal of research is to solve 'problem' of interest.
- Research Components:
 - Research Topic
 - Literature Review
 - Conceptual Framework
 - Data Acquisition
 - Data Analysis
 - Report, Writing
 - Scientific Publication

A kind of Research

- Phenomenon

sekumpulan hal bagian dari suatu entitas yang interesting bagi periset

- Understanding

pengetahuan yang dapat diperoleh, dari bebrapa aspek dari phenomenon

- Activities

proses untuk memperoleh pengetahuan dari phenomenon

Not a kind of Research

- Gathering information
 - Kliping
 - Dataset
 - Album, etc
 - No contribution of knowledge
 - No novelty
- GOOD ... NOT GOOD

Ex:

- Need to know the Java Programming?
- Need to know comparison Java and C?
- Need to know the backdoor of Java?
- How to make automatically recognition to classify picture using ontology approach?
- Which one is better, LSI or LPI?

Motivation

- Common
 - Pure Research: enhanced knowledge
 - Instrumentalist Research: solution of problem
 - Applied Research: application of solution
- The other
 - Againsts theory or phenomenon

Aims of Research

- Describe. What is going on phenomena
 - A lot people use social network
- Predict. What will going on phenomena
 - Within 5 years trend of social network how it change communication way
- Explain. Whats happen seeing from correlation with theory/postulat/hypothesis
 - Answer why a lot people use social network
- Interpret. Whats the motivation, intention, reason
 - The negative impacts of social network

Add... (from Briony O Oates)

- To add the body of knowledge
- To solve problem
- To find out what happens
- To find the evidence to inform practice
- To develop a greater understanding
- To predict, plan, control
- To contribute to other people's well-being
- To contribute to personal needs

- To come up with a better way
- To understand another person's pointb of view
- To create more interest in the researcher

Outcome of Research (Briony JO)

- A new or improved product
- A new theory
- A re-interpretation of existing theory
- A new or improved research tool or technique
- A new or improved model or perspective
- An in-depth study of particular situation
- An exploration of a topic, area or field
- A critical analysis

Type of Research

- By function
 - Basic/fundamental. Advanced Theory
 - Applied Research. Applying Theory
- By purpose
 - Descriptive. Aim to descript
 - Predictive. Aim to predict
 - Causal. Aim to explain
 - Interpretative. Aim to interpret

- Qualitative or Quantitative
 - Quantitative. Express by number
 - Qualitative. Express by not number, value, human intention

Research Process

- Research Idea
- Literature review
- Theoretical Formulation
- Empirical Research Question
- Research Design/ Planning
- Dataset
- Data Analysis
- Answering the empirical research question
- Theoretical interpretation

Methodology

- Method
 - How to make something
 - How to achieve something
- Ex: Scientific method
 - Steps to acquire knowledge
- Techniques for gathering data/ evidence

- Methodology
 - Systematic study of method
 - Analysis of the principle of methods, rule
 - A particular of procedures
- Include the following concept
 - A collection of theory, idea
 - Comparative study from related work
 - Critique of individual methods
- Underlying theory and analysis of how research does or should proceed