Educational Research
(Practitioner)

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Research Proposal?

Part 1. Title

A concise, descriptive title that clearly reflects the research focus.

Part 2. Abstract / Executive Summary

A brief overview (150–250 words) summarizing:

- The research problem
- Objectives
- Methodology
- Expected outcomes
- Significance

Part 3. Introduction

- Background and context
- Statement of the problem
- Research questions or hypotheses
- Significance of the study
  (academic, social, or practical)

Part 4. Literature Review

- Summary of key theories and previous research
- Identification of gaps your study will address
- Theoretical framework (if applicable)

Part 5. Research Objectives

- Clear, specific, and measurable objectives
- Optional: hypotheses or guiding questions

Part 6. Methodology

- Research design (qualitative, quantitative, mixed methods)
- Data collection methods
  (e.g., interviews, surveys, corpus analysis)
- Sampling strategy
- Data analysis plan
- Ethical considerations

Part 7. Timeline

- A Gantt chart or table showing key milestones
  (e.g., literature review, data collection, analysis, writing)

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I want to do a research. Give me a proposed framework.
9:22 AM

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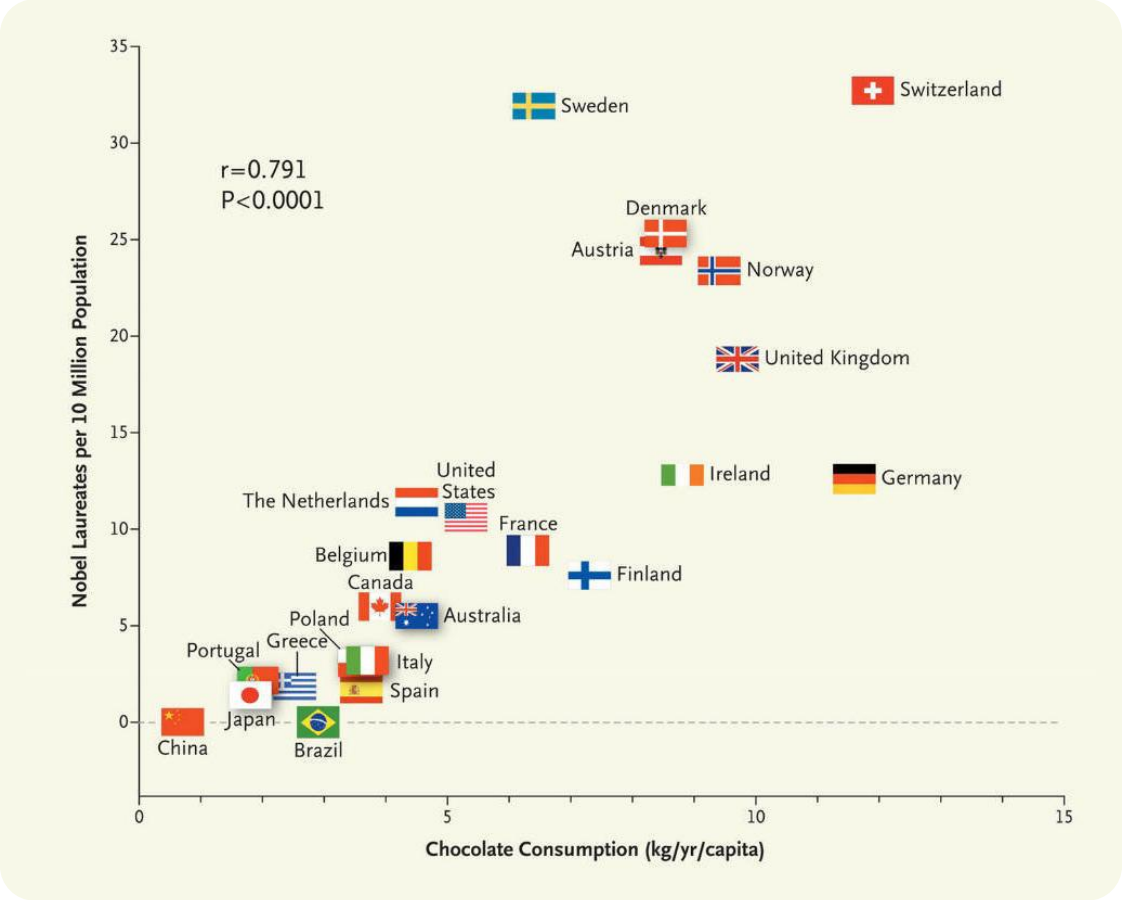
9:22 AM

Content

- What is…?
- Important?
- Literature?
- Flow
- Data Collection to Analysis

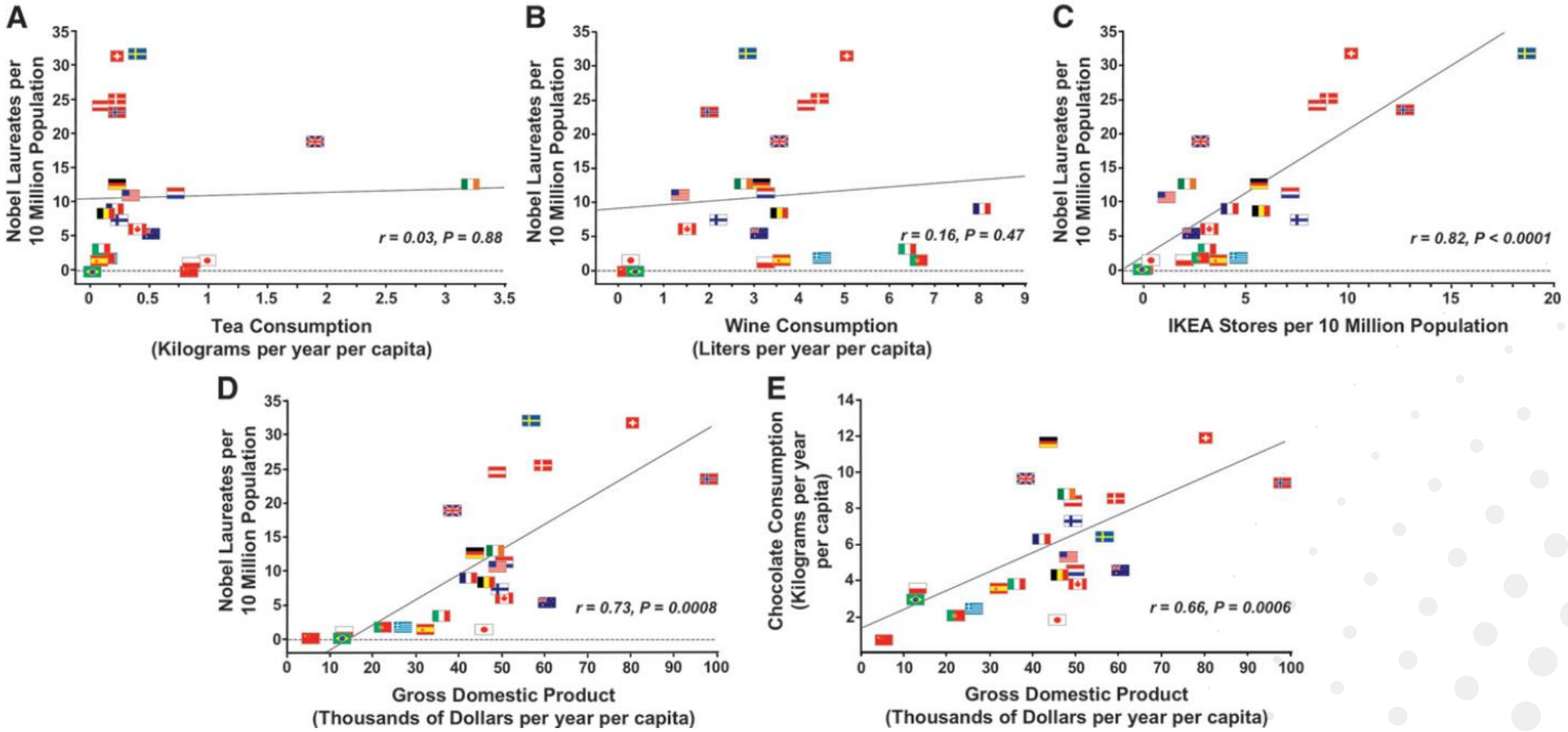
Research?



Chocolate consumption = Nobel prize?

Research?

Correlation is not causation by ignoring confounding effect



Leading school improvement: Research

Reason of doing research

1. The drawing together of different kinds of evidence including professional experience
2. The encouragement of dialogue about learning
3. The involvement of external critical friends
4. Collaborative working and learning within equitable partnerships
5. Reflective, critical, challenging but supportive approaches
6. Representation of a range of different voices and perspectives
7. A clear aim to improve student, professional and organizational learning

Leading school improvement: Research

Distinguish theory, research, and practice

- You must understand the broader, practical significance of engaging with published literature.
- Research is akin to forecasting the weather.

Leading school improvement: Research

Distinguish theory, research, and practice

Theory

- A merely speculation about the relationships among people and phenomena.
- Simple and easily understood (dismissed from “real” world)
- Use for subsequent analyses.

Leading school improvement: Research

Distinguish theory, research, and practice

Research

- Grounded in data
- Validate theory
- Understand phenomenon

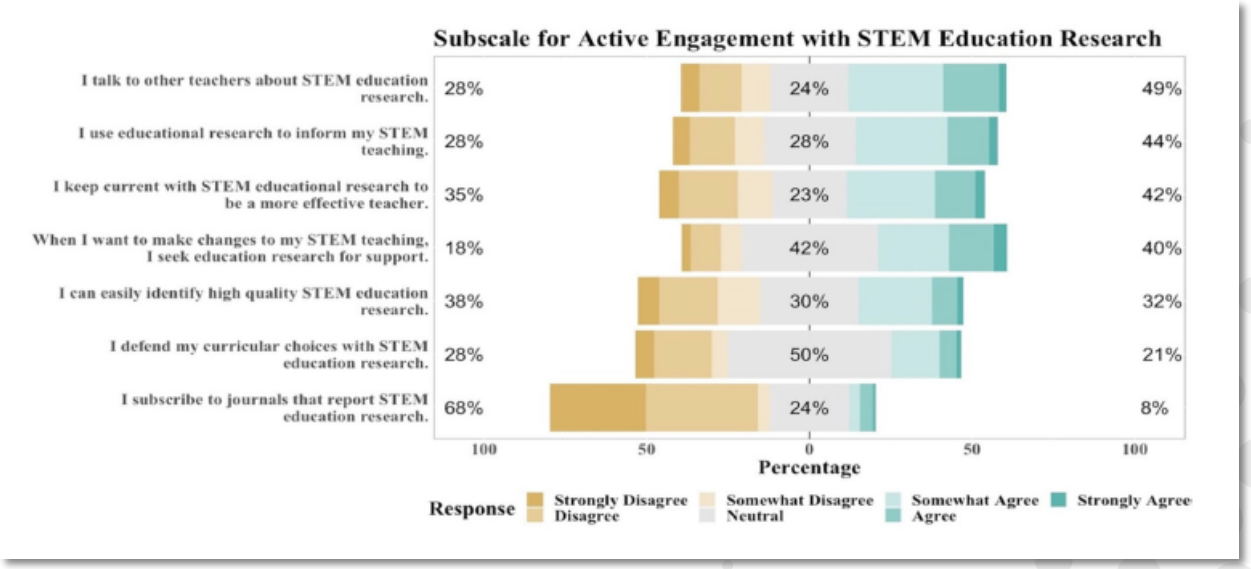
Table 6. Frequency of coded responses to the primary reason for accessing STEM education research (n = 210).

Code	Frequency	Percent of Responses	Percent of Sample (N = 452)
Knowledge	57	30%	12.6%
Teaching Efficacy	43	23%	9.5%
Student Learning	41	22%	9.1%
None	40	21%	8.8%
Lessons	13	7%	2.9%
Irrelevant Response	8	4%	1.8%
Unsure	6	3%	1.3%
School	2	1%	.4%

What about research and evidence? Teachers' perceptions and uses of education research to inform STEM teaching

Loi Booher, Louis S. Nadelson, and Sandra G. Nadelson

College of Health and Behavioral Sciences, University of Central Arkansas, Conway, Arkansas, USA

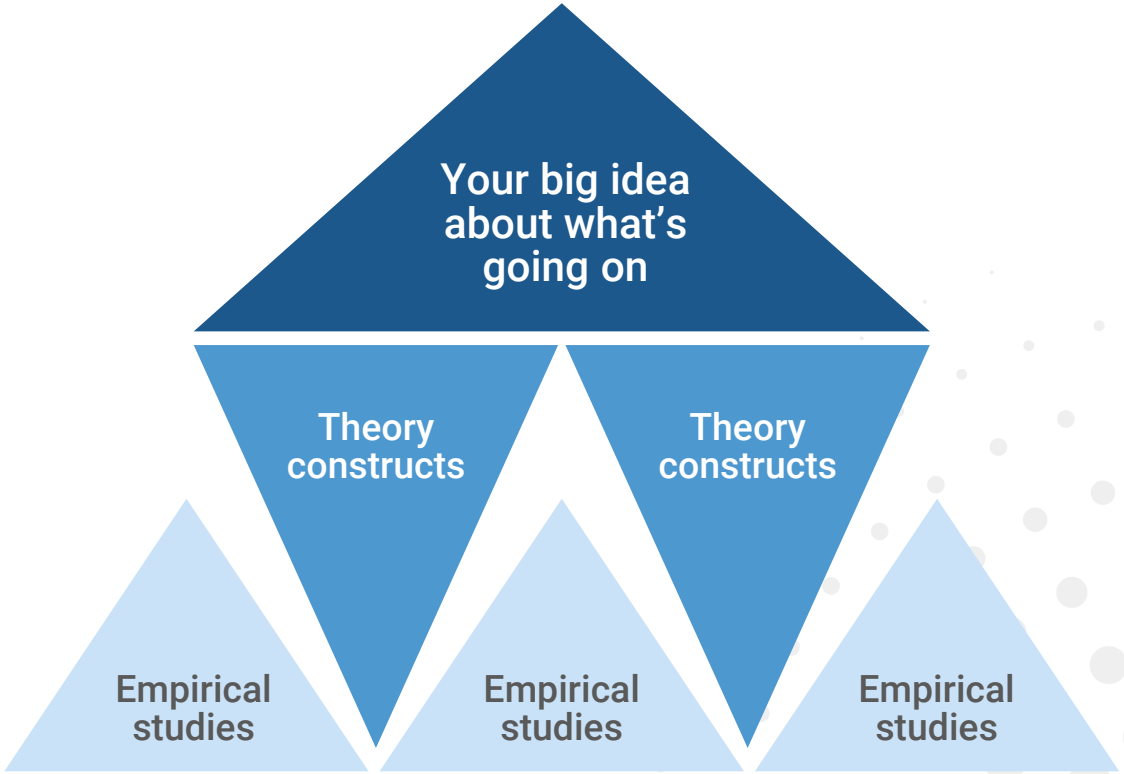


Leading school improvement: Research

Distinguish theory, research, and practice

Practice

- Use research to inform thinking
- Taking what is known about the local situation



Importance of education research

Objective of education research (add to knowledge and practice)

Description

Attempting to describe the characteristics of a phenomena

Understanding

Attempting to understand the subjective viewpoints of particular people and particular groups

Background: Women and students of color are widely underrepresented in the majority of STEM fields. In order to investigate this underrepresentation, we interviewed over 200 male and female college seniors, primarily women and people of color, who either majored in STEM or started but dropped a STEM major. Here, we focus on one section of the longer interview that focused on students' perceptions of professor care as well as perceived and preferred instruction style. Additionally, we look at correlations between professor care, course interactivity, and sense of belonging. In our analysis, we examine student responses through the lens of gender, race, and their intersections.

Rainey, K., Dancy, M., Mickelson, R., Stearns, E., & Moller, S. (2019). A descriptive study of race and gender differences in how instructional style and perceived professor care influence decisions to major in STEM. *International Journal of STEM Education*, *6*(1), 1-13.

Importance of education research

Objective of education research (add to knowledge and practice) **Example**

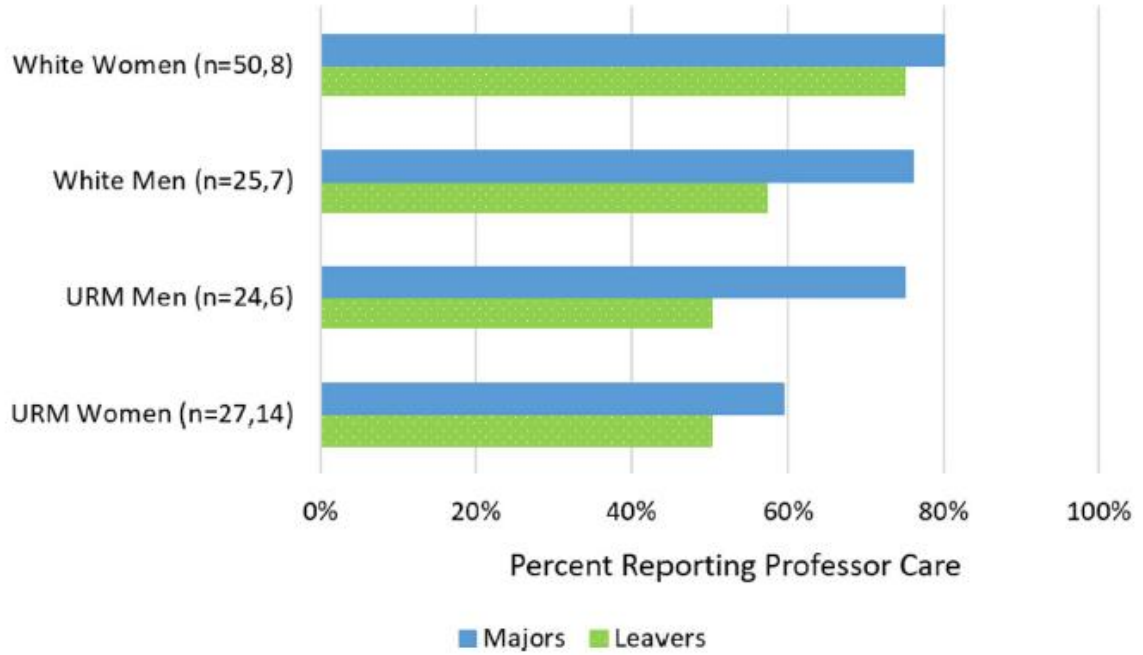


Fig. 2 Perceived professor care by major status, race, and gender. *N* values are report for majors and leavers, respectively

Rainey, K., Dancy, M., Mickelson, R., Stearns, E., & Moller, S. (2019).
A descriptive study of race and gender differences in how instructional style and perceived professor care influence decisions to major in STEM. *International Journal of STEM Education*, *6*(1), 1-13.

Importance of education research

Objective of education research (add to knowledge and practice) **Example**

What do they feel

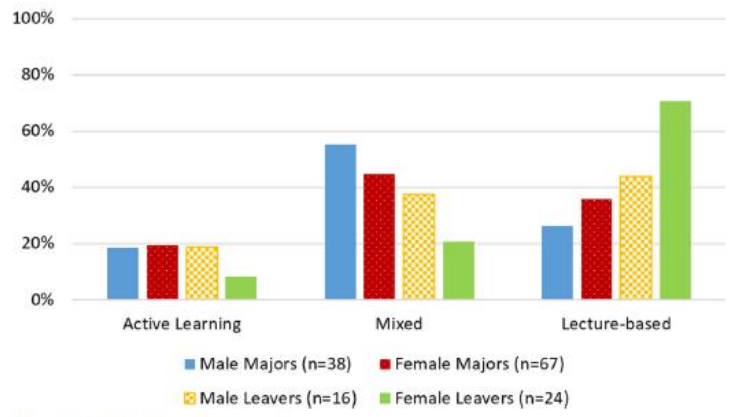


Fig. 4 Perceived instruction style by major status and gender

What do they want

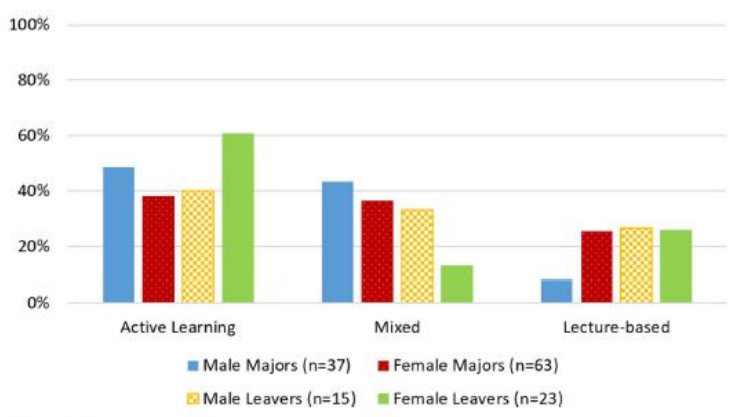


Fig. 6 Preferred instruction style by major status and gender

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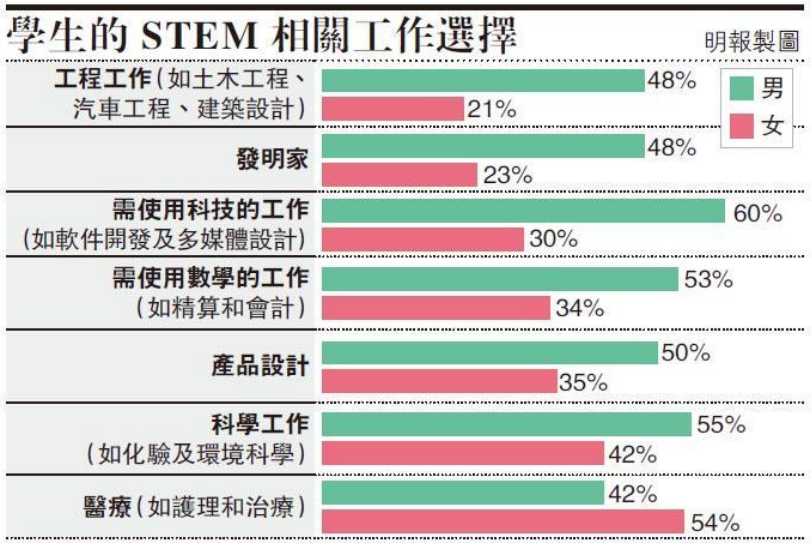
Importance of education research

Objective of education research (add to knowledge and practice) **Example**

香港欠「STEM女生」

蘇詠梅、趙永佳



以相對優勢解讀STEM男女失衡的迷思—與蘇教授和趙教授商榷

張熹晴、黃子純、曾華科、鄭嘉盈、鄭穎瑩、邱峻輝、黃智穎

圖1：男女選科分佈*

性別	總人次	STEM	文科	其他
男生	453,937	257,399 (57%)	142,158 (31%)	54,380 (12%)
女生	448,790	179,751 (40%)	189,356 (42%)	79,683 (18%)

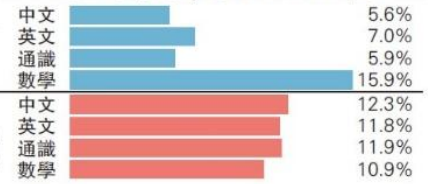
*2012至18年DSE日校考生應考人次

圖2：假想個案優勢縱橫圖

	理科	文科
男生	60分 有相對優勢	50分
女生	80分	90分 有相對優勢

女生在兩科都有絕對優勢

圖3：男女在DSE必修科取得5級或以上的比例（2012至19年）



選擇修讀STEM的女生着實不少，只是選擇STEM的男生數量驚人，使理科的男女比例失衡，最終產生甚少女生修讀STEM的印象。

全面理解女生STEM職業抱負為何受限—回應〈以相對優勢解讀STEM男女失衡的迷思〉

蘇詠梅

Understanding type of research articles

What are you looking for?

Before answering this questions, you need to…

- Learn the type of literature
- Understand how to read an abstract

Primary literature	Secondary literature
Original research articles	Narrative reviews
Surveys	Systematic reviews
Case report/case series	Meta-analysis
Conference proceedings and abstracts	Book reviews
Editorial	Guidelines
Correspondence/letters to the editor	Commentary

Understanding type of research articles

What are you looking for?

Before answering this questions, you need to…

- Learn the type of literature
- Understand how to read an abstract

Sub-headings and their accompanying explanations must always be included

- Purpose
- Design/methodology/approach
- Findings
- Originality

Sub-headings that are optional and can be included

- Research limitations/implications
- Practical implications
- Social implications

School competition in Hong Kong: a battle of lifting school academic performance?

Maxwell Chun Sing Ho and Jiafang Lu
Department of Education Policy and Leadership, Education University of Hong Kong, Tai Po, Hong Kong

Abstract

Purpose – Under-examination of the notion of competition between schools has created a considerable asymmetry between the reality and the literature of schooling. Therefore, the purpose of this paper is to investigate the validity of school competition and verify the propositions regarding the effects of school marketing practices in literature, particularly Direct Subsidy Scheme (DSS) and aided schools in Hong Kong.

Design/methodology/approach – It tests the relationships between student intake and school academic performance and school marketing practices. It also compares the pattern of the relationships between the DSS and aided secondary schools. Secondary data from 441 secondary schools were retrieved from a popular secondary school admission magazine in Hong Kong and from the schools' websites.

Findings – Hierarchical regression analysis revealed that the school's academic performance was positively related to discretionary student intake. In addition, marketing school academic performance, but not marketing school features, was positively related to student intake. At last, it was found that marketing school academic performance intensified the relationship between the school's academic performance and student intake in aided schools but not in DSS schools. The results were interpreted as demonstrating that school competition in Hong Kong is a battle of lifting academic performance.

Originality/value – This study is potential and worthwhile in at least two ways. First, testing the relationships of student intake with academic performance and school marketing practices helps to verify the notion of school competition in the education sector, which, in turn, can bridge the gap between the practice and literature of schooling. Second, examining school competition in Hong Kong can help to identify an important contextual reality for future scholars whose research site is located in Hong Kong.

Keywords Hong Kong, Marketing practices, Academic performance, School competition, Student intake

Paper type Research paper

Understanding type of research articles

What are you looking for?

Before answering this questions, you need to…

- Learn the type of literature
- Understand how to read an abstract

Read the abstract…

- Clear-cut aims and objectives?
- Well-defined research hypothesis?
- Are the conclusions precise?
- Is the above useful or relevant to what I am looking for?

Mapping a strong school culture and linking it to sustainable school improvement☆

Moosung Lee [a, b, *], Karen Seashore Louis [c]

[a] Faculty of Education, University of Canberra, Australia
[b] Department of Education, Yonsei University, Seoul, South Korea
[c] College of Education & Human Development, University of Minnesota-Twin Cities, USA

A B S T R A C T

This article illuminates the key elements of a strong school culture that have been linked with sustainable school improvement. Policy literature and conversations highlight the importance of school culture as the softer strategy in school improvement. Within this context, this article reviews existing research literature to theorize the key elements of a "strong school culture." Based on this, the article attempts to measure the key elements of a strong school culture and explores how those cultural elements are associated with sustainable school improvement, drawing from large survey data in the U.S. Implications for policy and research are discussed in depth.

Understanding type of research articles

What are you looking for?

1 Idea for a research

- Original research articles
- Experimental studies
- Case-control studies
- Conceptual paper

School Cultures	Latent Mean[a]	SE[a]	Effect Size[c]
Professional Learning Community	0.332***	0.034	0.515
Academic Press	0.528***	0.041	0.624
Student Support	0.560***	0.041	0.609
Trust and Respect	0.442***	0.039	0.471
Negativity	−0.734***	0.055	−0.521

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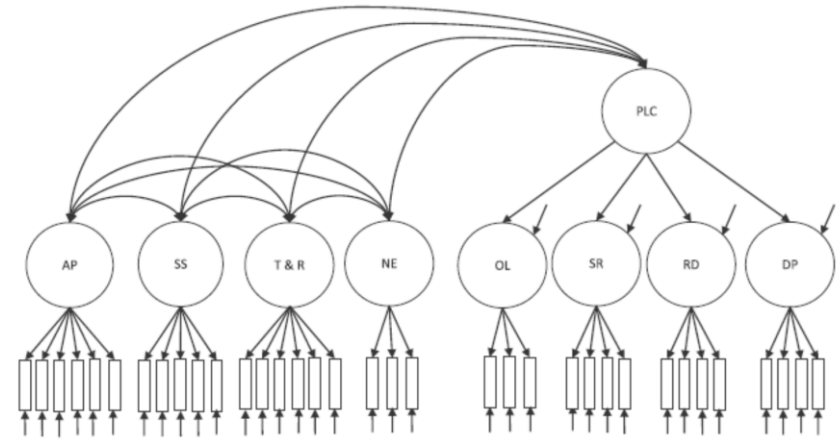


Notes: All estimates above are statistically significant at the $p<.001$ level. Error terms are omitted for simplicity.
AP = Academic Press, SS = Student Support, T & R = Trust & Respect, NE = Negativity, PLC = Professional Learning Community, SR = Shared Responsibility, RD = Reflective Dialogue, DP = Deprivatized Practice, OL = Organizational Learning.

Fig. 1. CFA measurement model.

Understanding type of research articles

What are you looking for?

2 Diagnosis/ prognosis

- Textbooks
- Case series
- Case reports

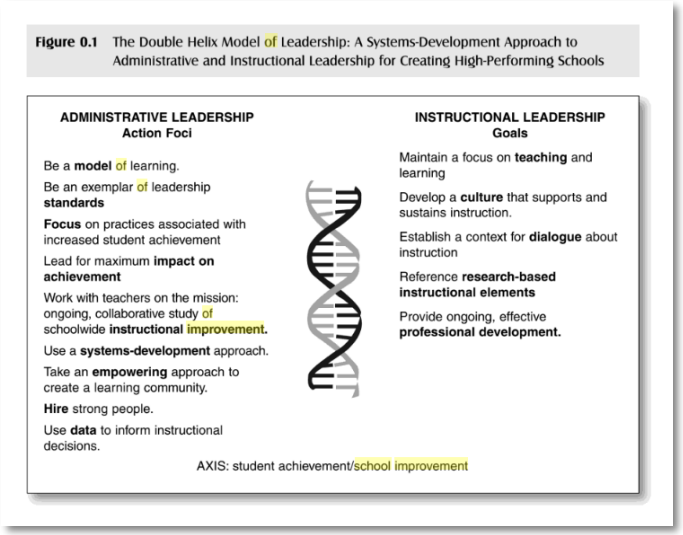


Figure 0.1 The Double Helix Model of Leadership: A Systems-Development Approach to Administrative and Instructional Leadership for Creating High-Performing Schools

ADMINISTRATIVE LEADERSHIP
Action Foci

Be a **model** of learning.

Be an exemplar of leadership **standards**

Focus on practices associated with increased student achievement

Lead for maximum **impact on achievement**

Work with teachers on the mission: ongoing, collaborative study of schoolwide **instructional improvement.**

Use a **systems-development** approach.

Take an **empowering** approach to create a learning community.

Hire strong people.

Use **data** to inform instructional decisions.

INSTRUCTIONAL LEADERSHIP
Goals

Maintain a focus on **teaching** and learning

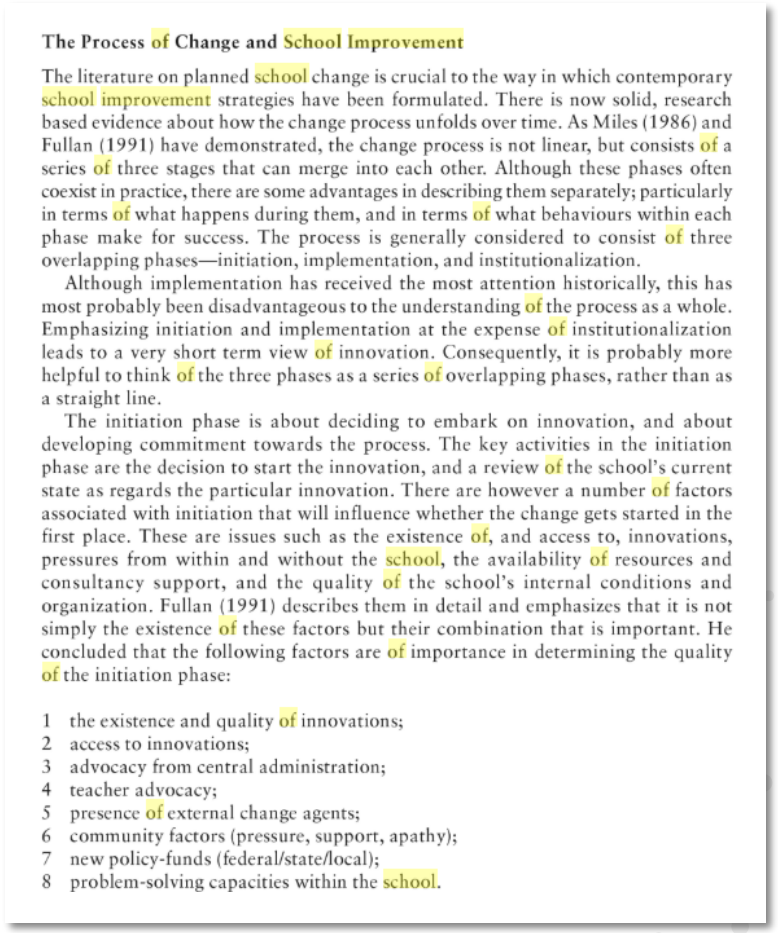
Develop a **culture** that supports and sustains instruction.

Establish a context for **dialogue** about instruction

Reference **research-based instructional elements**

Provide ongoing, effective **professional development.**

AXIS: student achievement/school improvement



The Process of Change and School Improvement

The literature on planned school change is crucial to the way in which contemporary school improvement strategies have been formulated. There is now solid, research based evidence about how the change process unfolds over time. As Miles (1986) and Fullan (1991) have demonstrated, the change process is not linear, but consists of a series of three stages that can merge into each other. Although these phases often coexist in practice, there are some advantages in describing them separately; particularly in terms of what happens during them, and in terms of what behaviours within each phase make for success. The process is generally considered to consist of three overlapping phases—initiation, implementation, and institutionalization.

Although implementation has received the most attention historically, this has most probably been disadvantageous to the understanding of the process as a whole. Emphasizing initiation and implementation at the expense of institutionalization leads to a very short term view of innovation. Consequently, it is probably more helpful to think of the three phases as a series of overlapping phases, rather than as a straight line.

The initiation phase is about deciding to embark on innovation, and about developing commitment towards the process. The key activities in the initiation phase are the decision to start the innovation, and a review of the school's current state as regards the particular innovation. There are however a number of factors associated with initiation that will influence whether the change gets started in the first place. These are issues such as the existence of, and access to, innovations, pressures from within and without the school, the availability of resources and consultancy support, and the quality of the school's internal conditions and organization. Fullan (1991) describes them in detail and emphasizes that it is not simply the existence of these factors but their combination that is important. He concluded that the following factors are of importance in determining the quality of the initiation phase:

1 the existence and quality of innovations;
2 access to innovations;
3 advocacy from central administration;
4 teacher advocacy;
5 presence of external change agents;
6 community factors (pressure, support, apathy);
7 new policy-funds (federal/state/local);
8 problem-solving capacities within the school.

Understanding type of research articles

What are you looking for?

3 Topic overview/updates

- Narrative reviews
- Systematic reviews
- Meta-analysis

Table 5 School practices shown to improve school disciplinary environment or co-occur with a positive disciplinary environment

Study	Practice	Study design	Sample	Effect size
Very strong evidence				
Converse and Lignugaris-Kraft (2008)	Mentoring, staff-student	RCT	Students with behavior problems (U.S.)	1.03
Farrell et al. (2001)	Violence-prevention curriculum	CRT	Students, general (U.S.)	0.91
Lochman and Wells (2004)	Group aggression counseling, students and parents	RCT	Male students with behavior problems (U.S.)	0.38
Strong evidence				
Allen and Philiber (2001)	Service-learning curriculum	NCG	Students, general (U.S.)	0.18
Pack et al. (2011)	Safety ambassadors, students	NCG	Students, general (U.S.)	[a]
Shapiro et al. (2002)	Violence-prevention curriculum	NCG	Students, general (U.S.)	0.27–0.33[b]
Sprague et al. (2001)	Violence-prevention curriculum	NCG	Students, general (U.S.)	[a]
Moderate evidence				
Cornell et al. (2009)	Threat assessment guidelines	CSR	Students, general (U.S.)	0.30
Darling (2005)	Extracurricular activity involvement, students	CSR	Students, general (U.S.)	[a]
Fredricks and Eccles (2006)	Extracurricular activity involvement, students	CSR	Students, general (U.S.)	0.09
Geller et al. (2013)	Participation in school improvement, students	CSR	Students, general (U.S.)	0.64
Karakos et al. (2016)	Participation in school improvement, students	CSR	Students, general (U.S.)	0.29
Mitchell and Bradshaw (2013)	Classroom management	CSR	Students, general (U.S.)	0.17
Ryan and Patrick (2001)	Teacher support and respect	CSR	Students, general (U.S.)	0.21

CRT, cluster randomized trial; CSR, correlational survey research with controls; NCG, non-equivalent control group design; OPD, one-group pretest-posttest design; QCS, primarily qualitative case study; RCT, randomized controlled trial.
[a]Effect size could not be calculated due to missing information regarding standard deviation of the outcome variable.
[b]Due to missing information, effect size calculations assumed equal treatment and control groups sample sizes; effects size ranges indicate that the study found significant effects on multiple measures of the outcome.

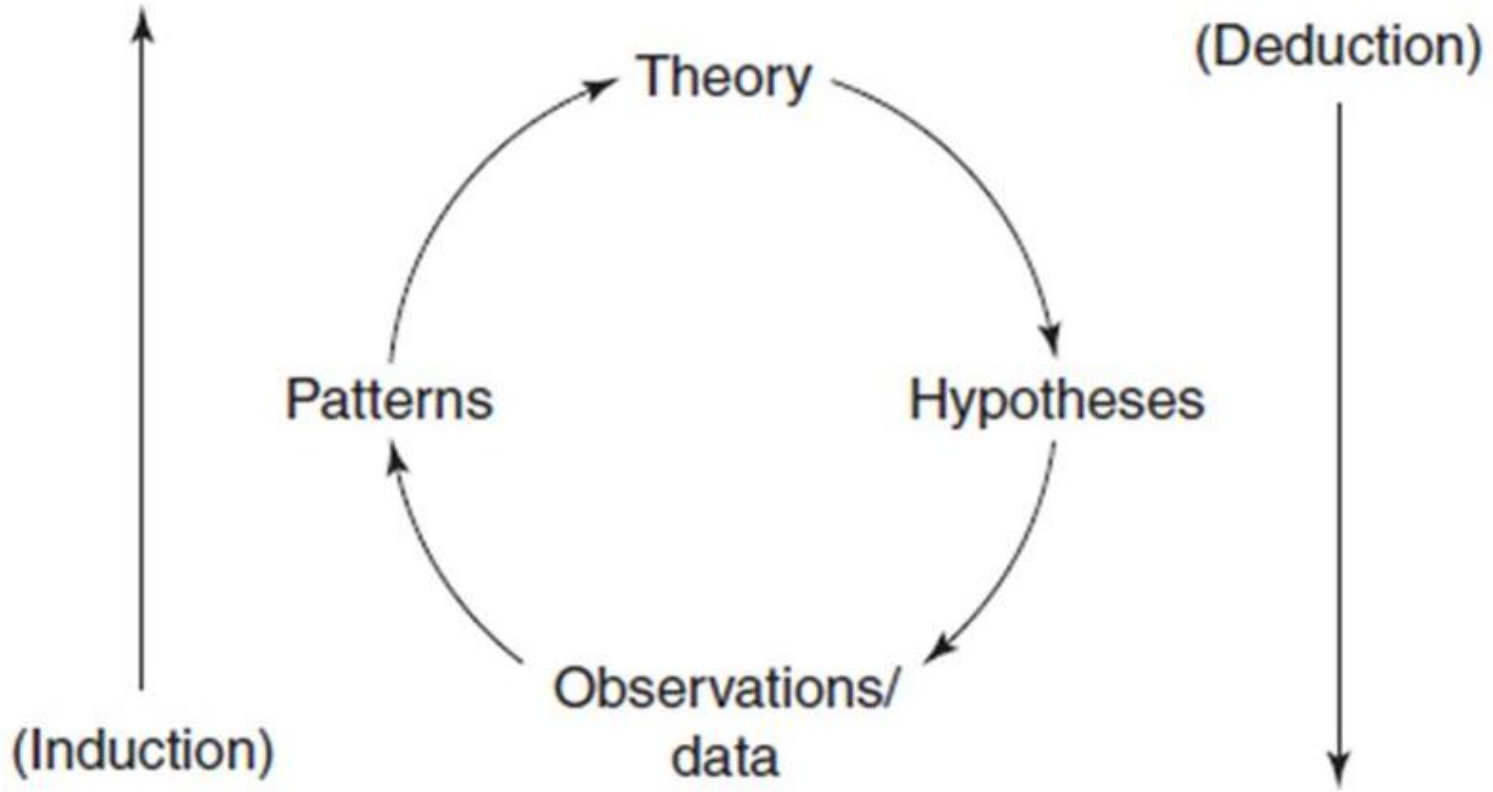
Practices for Improving Secondary School Climate: A Systematic Review of the Research Literature

Adam Voight,[1] and Maury Nation[2]

Abstract School climate has received increased attention in education policy and, in response, educators are seeking strategies to improve the climates of their middle and high schools. However, there has been no comprehensive synthesis of the empirical evidence for what works in school climate improvement. This article constitutes a systematic review of programs and practices with empirical support for improving school climate. It defines school climate and provides a methodology for identifying and evaluating relevant studies. The review identified 66 studies with varying strength of evidence and nine common elements that cut across reviewed programs and practices. The review concludes with a critical appraisal of what we know about school climate improvement and what we still need to know.

Research Flow

Research wheel: Your scientific angle



Sampling – Terminology

Population

A population in the set of all elements.

It is the large group to which a researcher wants to generalize his or her sample results.

Sample

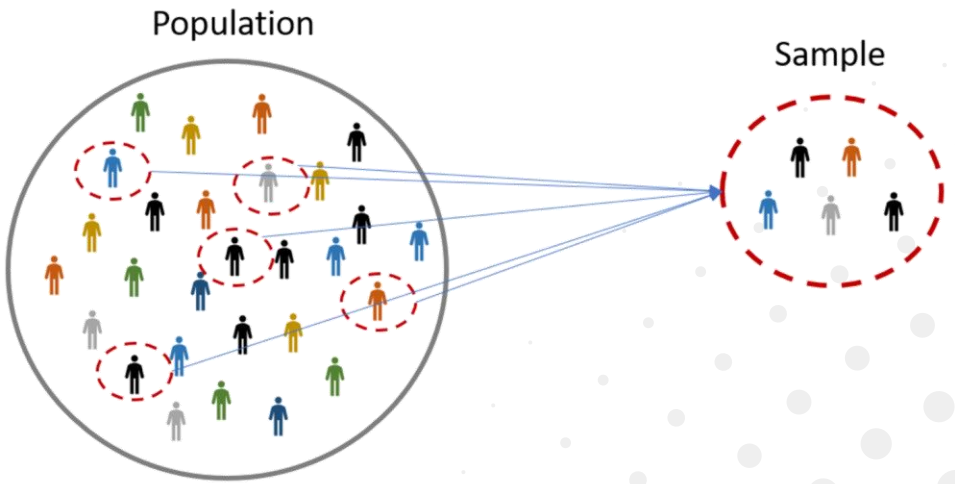
A sample is a set of elements taken from a larger population according to certain rules.

Example

Students feedback on e-learning.

Population – All students

Sample – Selected students



Sampling – Terminology

Sampling

Sampling is the process of drawing a sample from a population. It aims at generalize the characteristics from the sample to the population.

Goal

Representative sample resembles the population that it came from on all characteristics except total size.

Avoid

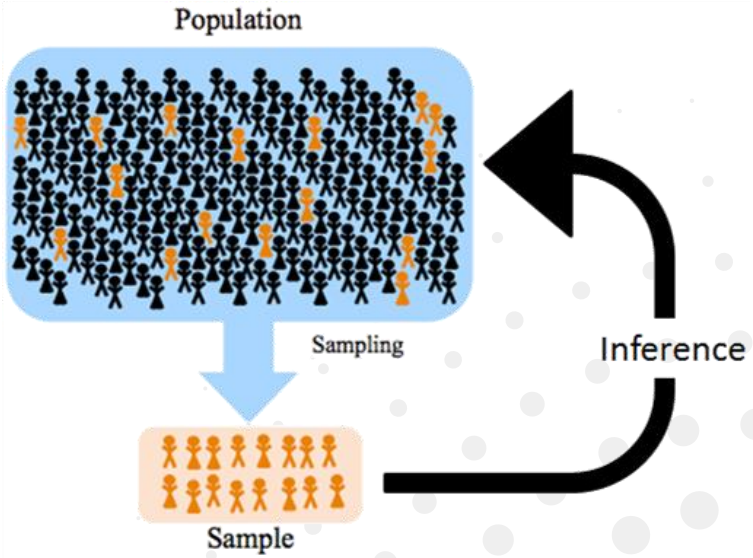
Biased sample is systematically different from the population.

Example

Students feedback on e-learning.

Representative sample – High, middle, low performance student

Biased sample – Random



Data Collection

Rule (Triangulation)

Provide multiple sources of evidence

- Provide multiple-converging support for a single point
- Provide a fuller-diverging picture of what you are studying

Rule out alternative explanation

- Defend a specific claim by providing evidence

Example

Students perform well in examination/test

≠ Effective teaching

Data Collection

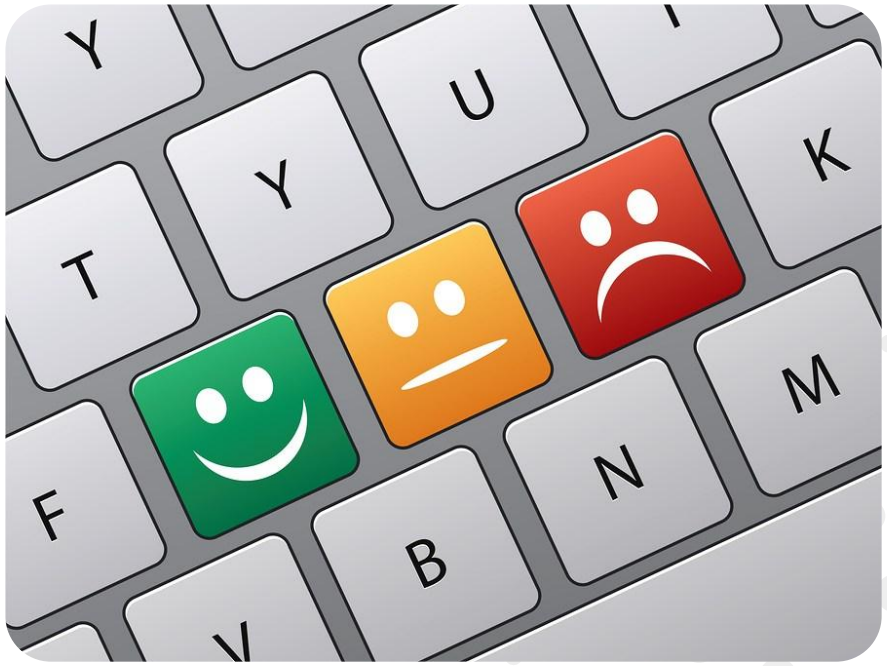
Method (Quantitative)

Measuring performance

Assess an individual's ability to perform on an achievement test, intelligence test, aptitude test, interest inventory, or personality assessment inventory.

Measuring attitude

Measure feelings toward educational topics (e.g., assessing positive or negative attitudes toward giving students a choice of school to attend).



Data Collection

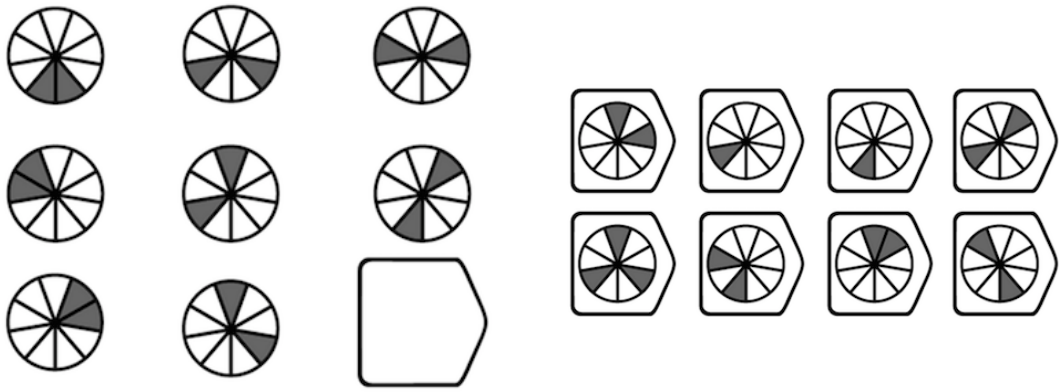
Method (Quantitative)

Measuring method – Tests

- A standardized tests is developed by many scholars.
- An assessment tests is developed by the researcher that tailor to the content or task.

Example

IQ test



A Sample of Assessment Techniques

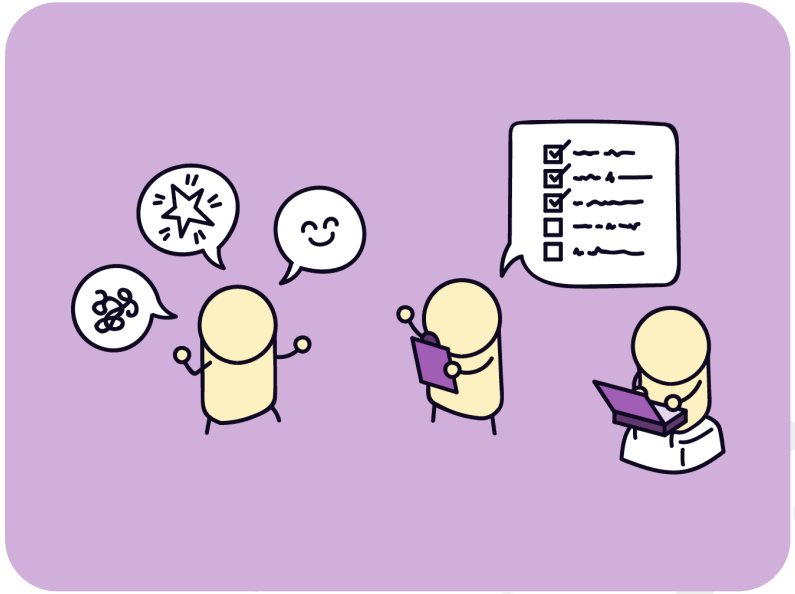
Assessment	Format Characteristics
Multiple Choice Items	One or more correct responses
Short Answer	One or two words or short sentences
Worked Problems	Details provided on how answer was derived
Essay	Holistic Rubrics
Performance Based	Simulations Laboratory experiments 2-way, or multi-point communications Projects
Observations	Observations during learning or performance. May be scored as observed or recorded (e.g., video) for later scoring and analyses
Interviews	Individuals Focus groups
Journaling	Self reflection about learning and performance, including analyses
Rating Scales	Of Learning activities Of outcome performance Of process May be self-report or by trained observers
Response scales	No correct response, but only one response per item (i.e., Likert scale - Strongly Disagree to Strongly Agree)
Concept Maps	Representations of knowledge and understanding

Data Collection

Method (Quantitative)

Quantitative observing method

Selecting an instrument (or using a behavioral protocol) on which to record a behavior, observing individuals for that behavior, and checking points on a scale that reflect the behavior (behavioral checklists).



Quantitative observing method

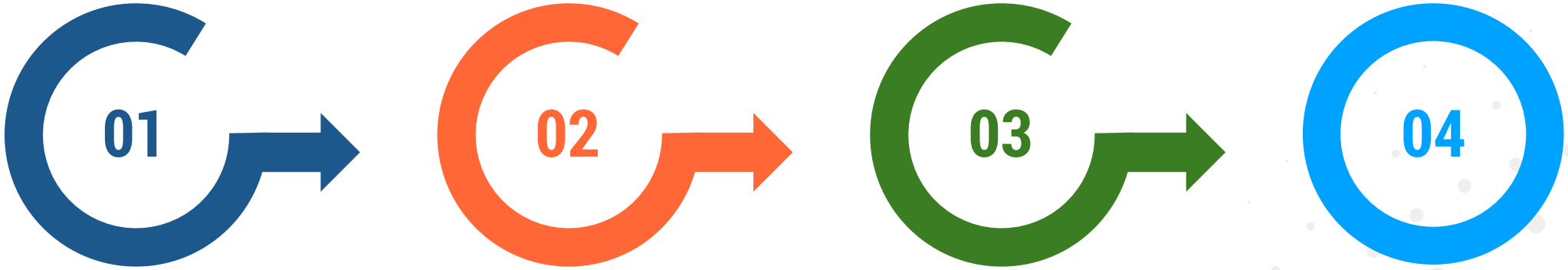
Time-interval sampling	Specific time interval
Event sampling	During or after a specific event has occurred

Data Collection

Method (Qualitative)

Qualitative observation

Observation is the process of gathering open-ended, firsthand information by observing people and places at a research site.



Complete participant

Becomes a member of the group being studied and does not tell members they are being studied.

Example
Being a student

Participant as observer

Spends extended time with the group as an insider and tells members they are being studied.

Example
Shadowing

Observer as participant

Spends a limited time observing group members and tells members they are being studied.

Example
Lesson observation

Complete observer

Observes as an outsider and does not tell people they are being observed.

Example
Using CCTV

Data Collection

Method (Qualitative)

Interview

- Depth interviews
- Enter into the inner world of another person and to gain an understanding of that's person's perspective

Data Collection

Method (Qualitative)

Interview (Example)

Teachers' sense-making about comprehensive school reform: The influence of emotions

Michèle Schmidt[a,*], Amanda Datnow[b]

[a]*Faculty of Education, Simon Fraser University, 8888 University Drive, Burnaby, BC, Canada V6A 1S6*
[b]*University of Southern California, CA, USA*

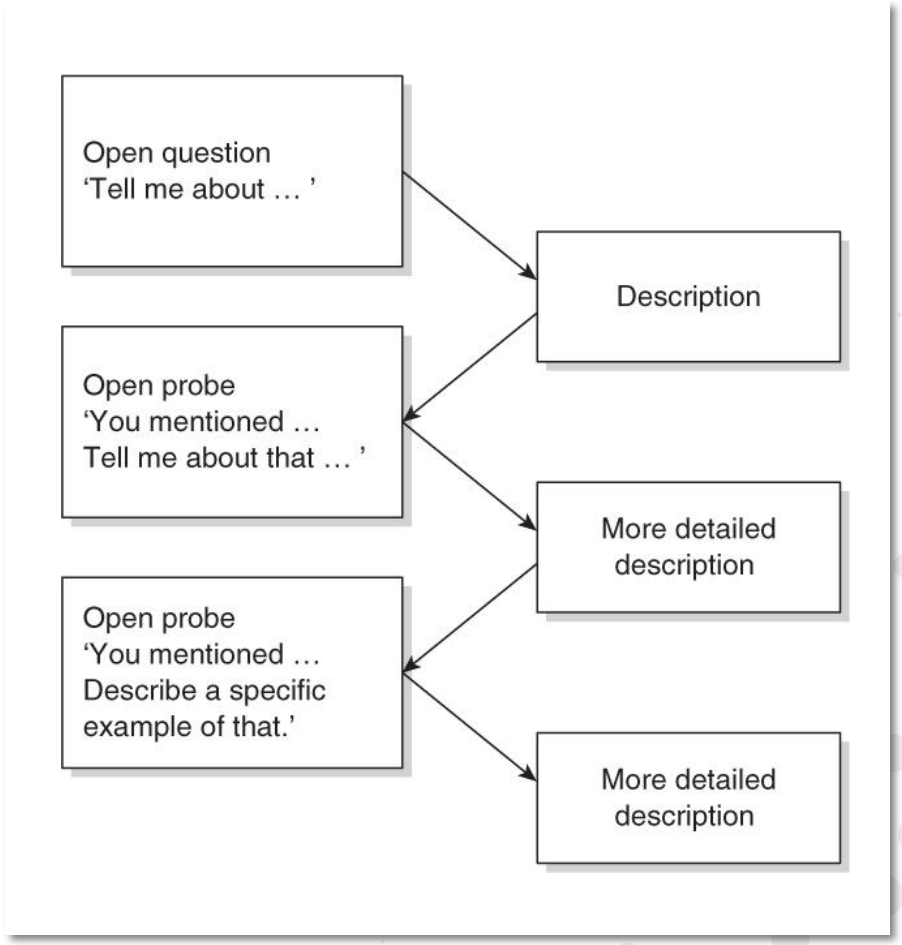
Our interviews were guided by semi-structured protocols. In our interview with teachers, we asked a variety of questions about how they defined the reform model in their school (including "How would you describe the reform model?", "If someone said, what is an Accelerated School, what would you tell them?"). We also inquired about the emotions the reform elicited, asking questions including, "Tell me a little about some of the feelings you have had during the initiation and implementation of this reform. Give an example of something that created positive or negative emotions in you." We also asked questions about how the reform impacted teachers' practice such as, "How would I know this was a Comer SDP school if I came into your classroom?" While these particular questions generated most of the data for this paper, we also found that other more general interview questions (e.g., "Why did this school adopt this reform?" "What type of professional development opportunities have been provided as a result of the reform?") gathered for the purpose of the broader study, also elicited important data.

Data Collection

Method (Qualitative)

Interview technique

- Probes are subquestions under each question that the researcher asks to elicit more information. Use them to clarify points or to have the interviewee expand on ideas.
- These probes vary from exploring the content in more depth (elaborating) to asking the interviewee to explain the answer in more detail (clarifying).

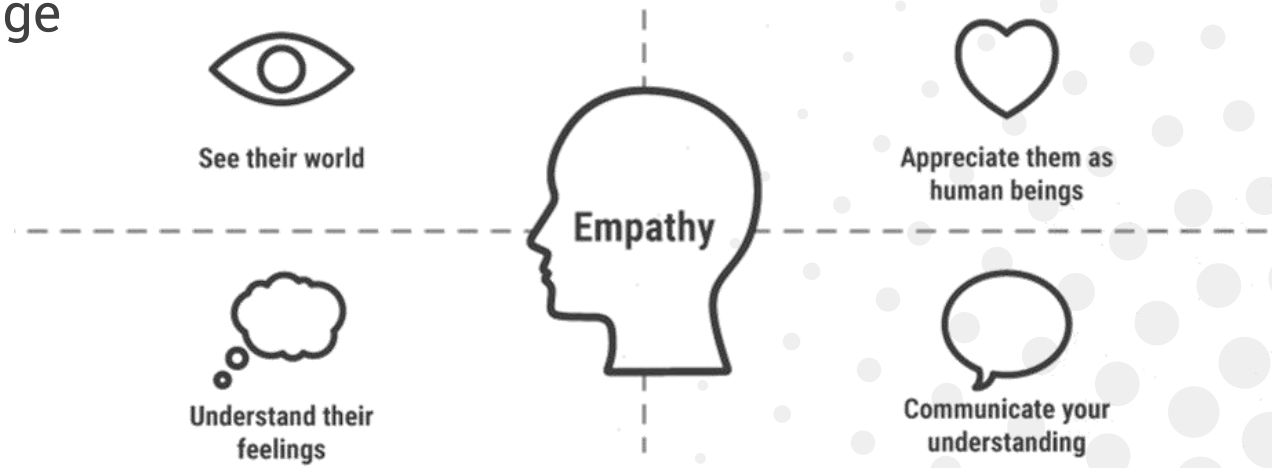


Data Collection

Constructing questionnaire

Principles for designing questionnaire

1. Make sure the questionnaire items match your research objectives
   Instrument match your objectives
2. Understand your research participants
   Develop an empathetic understanding (think like your participants)
3. Use natural and familiar language



Data Collection

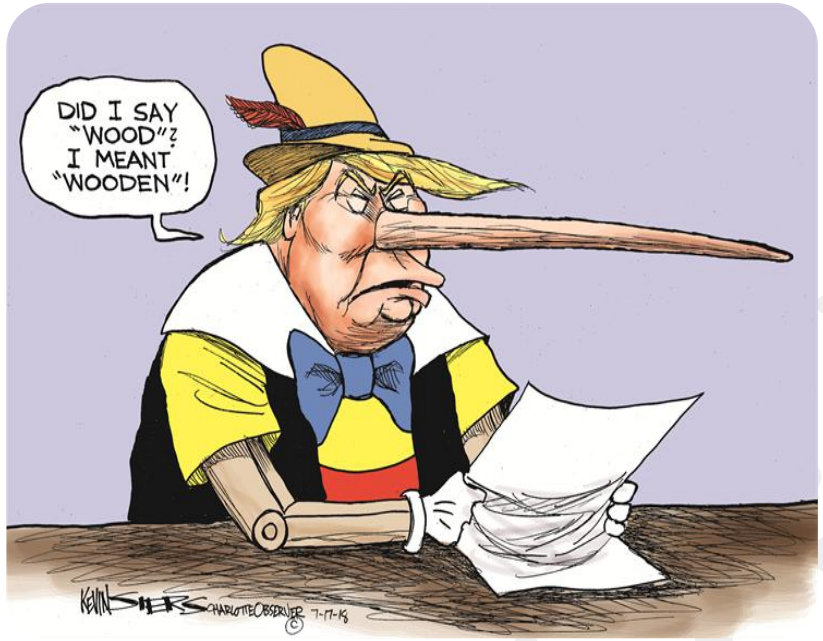
Constructing questionnaire

Principles for designing questionnaire

4 Do not use ‘leading’ or ‘loaded’ questions

Example of loaded questions
Do you believe that you should keep more of your effort on teaching or that the school should get more of your effort for handling bureaucratic administration programs? (imply bureaucracy exist in this school)

Task
Rewrite the questions.



Data Collection

Constructing questionnaire

Principles for designing questionnaire

5 **Avoid double-barreled questions**
Combines two or more issues or attitude objects

6 **Avoid double negatives**
Includes two negatives in one sentences

Data Collection

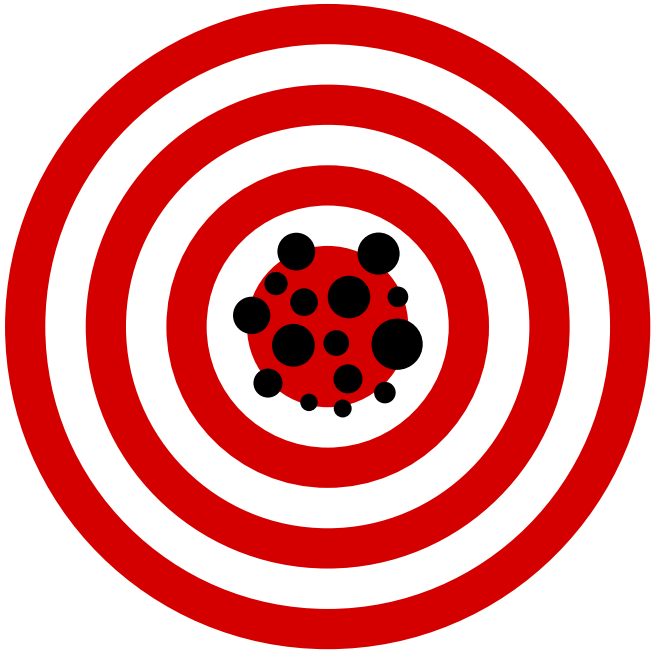
Constructing questionnaire

Principles for designing questionnaire

Examples from teachers and students' questionnaire

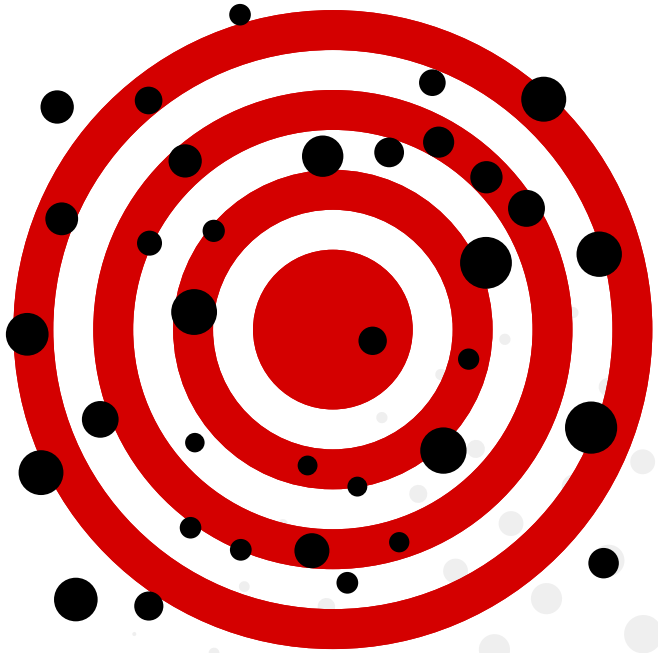
Validity and Reliability

Collecting data



✅ Reliable
✅ Valid

✅ Reliable
❌ Valid



❌ Reliable
❌ Valid

Analyzing – Experimental Research

Test an idea (or practice or procedure) to determine whether it influences an outcome

Field experiment

Conducted in a real-life setting

Laboratory experiment

Conducted in a controlled environment where one or more variables are precisely manipulated and all or nearly all extraneous variables are controlled.

Analyzing – Experimental Research

Independent variable and Dependent variable

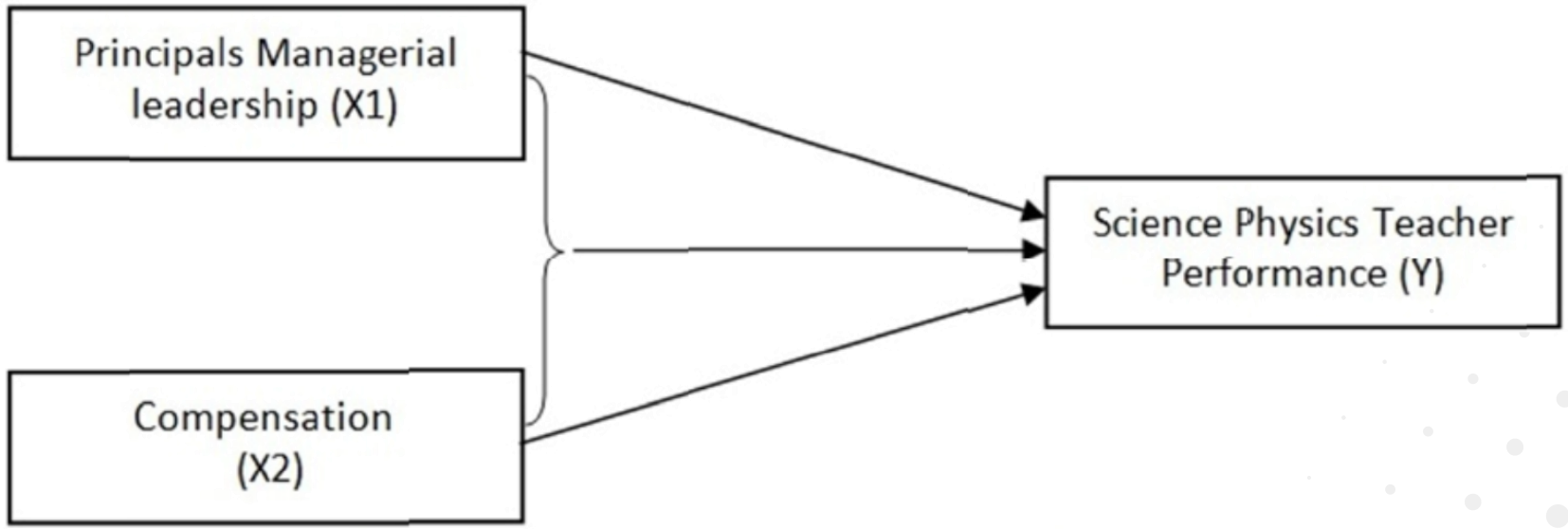


Figure 1. Frame work of research design

Analyzing – Experimental Research

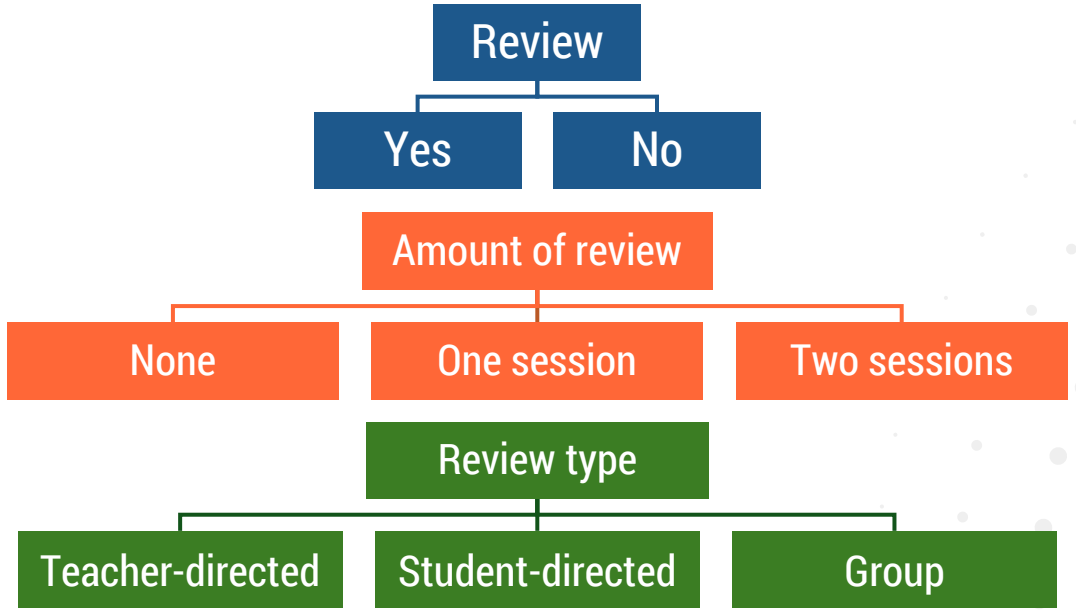
Independent variable manipulation

- The manipulation is expected to cause a change in dependent variable.

Example

Review for study

- Presence versus absence technique
- Amount technique
- Type technique



Analyzing – Experimental Research

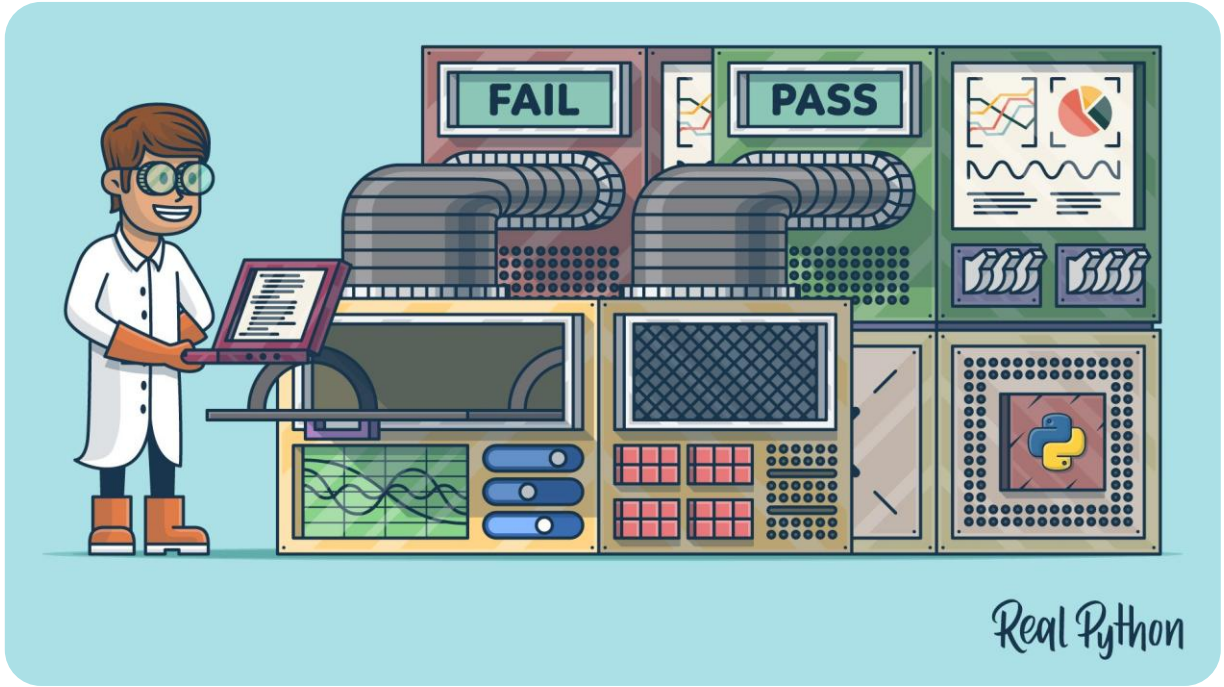
Enhancing the quality (validity) of your experimental

- Avoid ambiguous temporal precedence (含糊流程)
- Understand historical background of your participants (any treatment before?)
- Maturation (age of teacher or students)

Analyzing – Experimental Research

Enhancing the quality (validity) of your experimental

- Testing (familiar with the test with pre-test experience)
- Instrumentation (foresee the change of second questionnaire)
- Avoid differential selection



Analyzing – Experimental Research

Pre and Post-Tests

- Pre-tests are given before a learning period to assess students' prior knowledge.
- Post-tests are administered after the learning period to evaluate what students have learned.

Paired Sample T-Test

- Used for pre and post-test analysis in the same group of students to see if their performance has statistically improved.

Apply the T-Test

- Use statistical software (like SPSS, R, or even Excel) to calculate the T-value and P-value.

Example

Pre-test	70	75	65	60	80
Post-test	80	78	69	65	85
Difference	10	3	4	5	5

T-test result

P-value = 0.02

(significant at 0.05 level)

Conclusion

There is a significant improvement in scores, indicating effective instruction.

Analyzing – Experimental Research

Pre and Post-Tests

- Pre-tests are given before a learning period to assess students' prior knowledge.
- Post-tests are administered after the learning period to evaluate what students have

Utilize ChatGPT
as your guide for navigating and mastering the software
'Conduct T-test by SPSS'

A

- Use statistical software (like SPSS, R, or even Excel) to calculate the T-value and P-value.

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(significant at 0.05 level)

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Analyzing – Correlation

Table 4 Means, standard deviations and intercorrelations between main variables ($N = 1306$)

Variable	M	SD	1	2	3	4	5
1. Financial knowledge	3.60	0.79					
2. Financial behaviour	3.34	0.58	0.534**				
3. Financial literacy curriculum	0.61	0.49	– 0.068**	– 0.076**			
4. Band 1	0.24	0.43	0.081**	0.064*	– 0.051		
5. Band 2	0.38	0.49	0.031	– 0.43	– 0.061*	– 0.439**	
6. Band 3	0.38	0.49	– 0.102**	– 0.013	0.106**	– 0.439**	– 0.614**

*$p < 0.05$; **$p < 0.01$

Analyzing – Correlation

Utilize ChatGPT
as your guide for navigating and mastering the software
'Conduct Correlation analysis by SPSS'

6. Band 3	0.38	0.49	– 0.102**	– 0.013	0.106**	– 0.439**	– 0.614**

*$p < 0.05$; **$p < 0.01$

Analyzing – Regression

Table 2 Regression of student intake on academic development orientation, whole-person development orientation, and type of school

	Standardized coefficient—β			
Independent variables				
Academic development orientation	0.17**	0.11**	0.06	0.06
Whole-person development orientation	0.25**	−0.01	0.05	0.05
Type of school (0 = Aided schools, 1 = DSS schools)		0.74**	0.87**	0.86**
Two-way interaction				
Academic development orientation × Whole-person development orientation			0.01	0.05
Academic development orientation × Type of school			0.17**	0.25**
Whole-person development orientation × Type of school			−0.25**	−0.22**
Three-way interaction				
Academic development orientation × Whole-person development orientation × Type of school				−0.14**
R^2	0.10	0.58	0.62	0.62
Adjusted R^2	0.09	0.57	0.61	0.61
F	17.63**	147.67**	85.64**	74.80**
ΔR^2	0.10**	0.58**	0.04**	0.01*

$N = 327$. *$p < .05$, **$p < .01$

Analyzing – Case study

Case

A bounded system

Instrumental case study

Provide insight into an issue or refinement of theory.

Collective case study

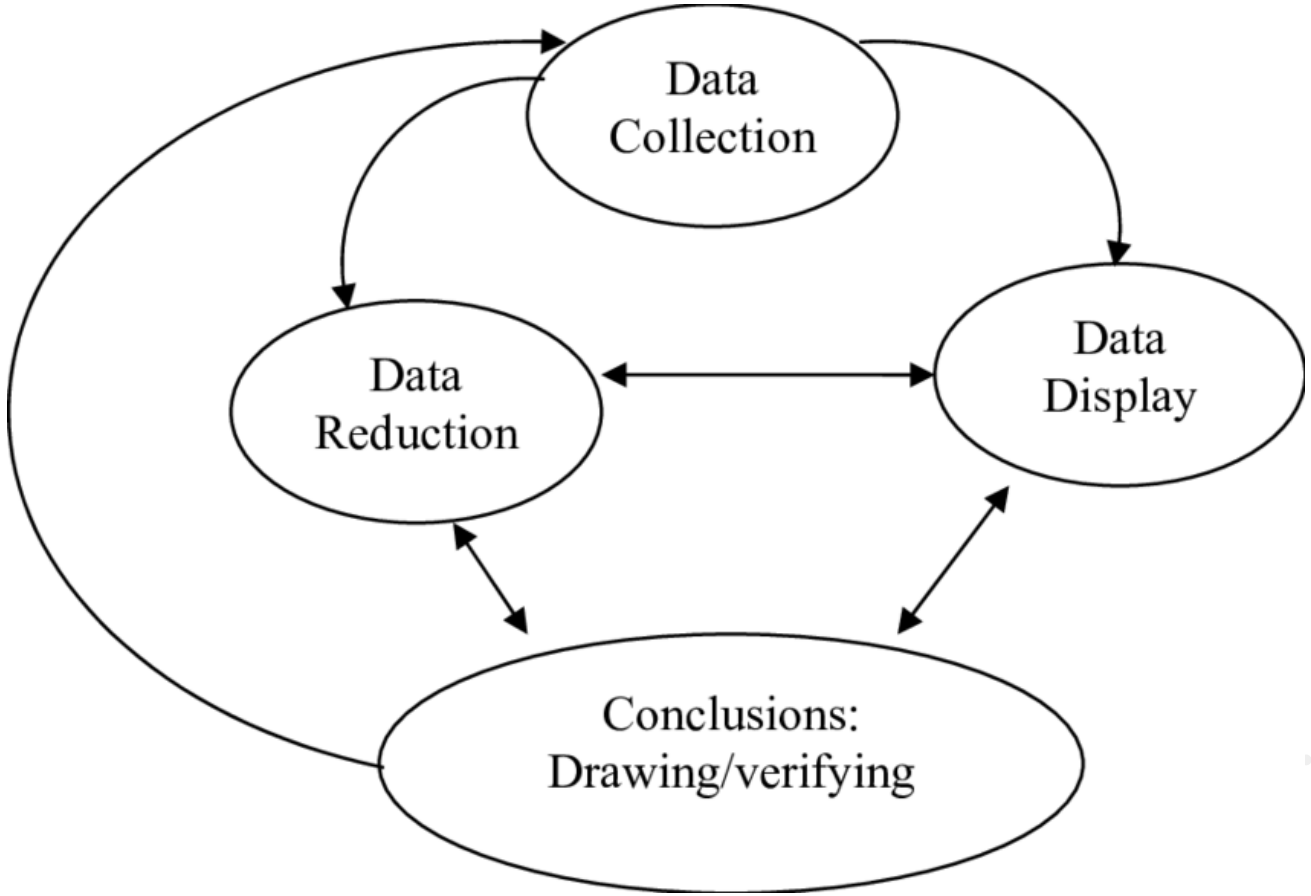
Extended to several cases.

Analyzing – Case study

Study of the particular (principle)

- Uniqueness of situations
- Identify the “issue” as the theme or dimension to study
- Telling the story: Let the case tell its own story

Analyzing – Case study



Analyzing – Case study

Data reduction

First Wave | Coding | Second Wave | Pattern | Third Wave | Theme

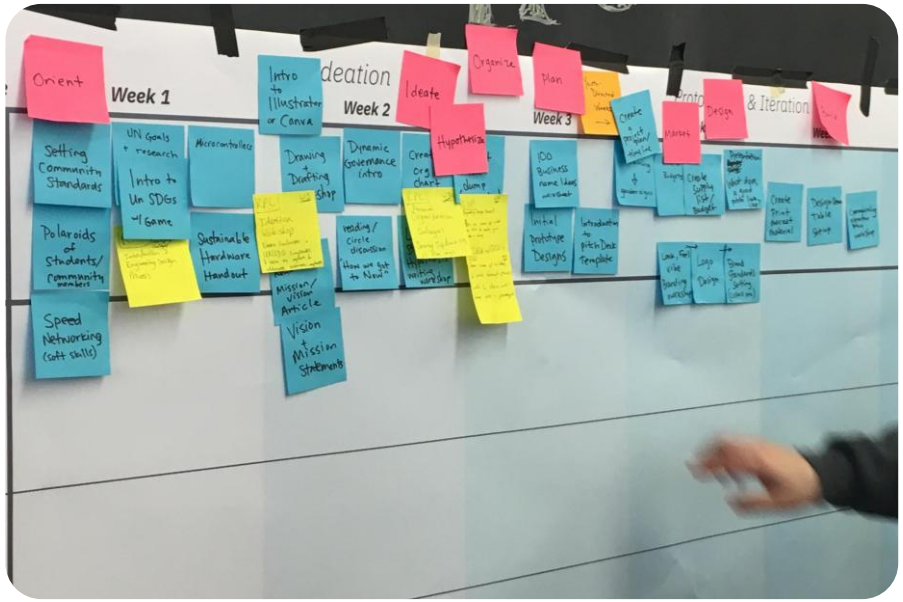
- Descriptive coding
- Process coding
- Concept coding
- Emotion coding
- Values coding
- Attribute coding

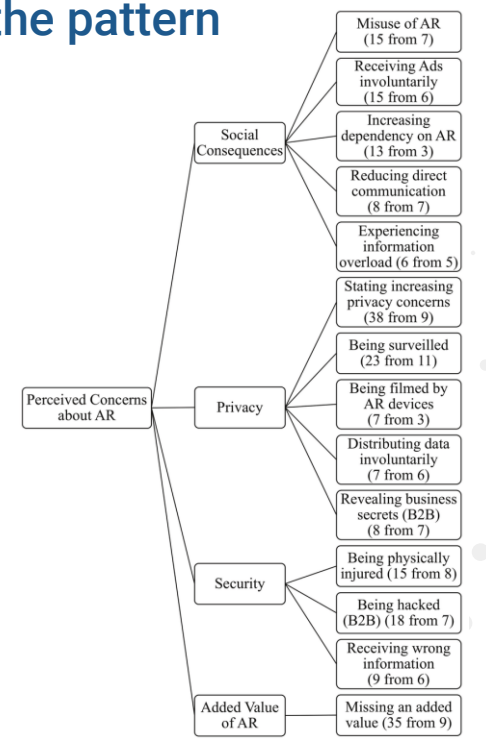
Analyzing – Case study

Data reduction

First Wave | Coding | Second Wave | Pattern | Third Wave | Theme

Data display to identify the pattern



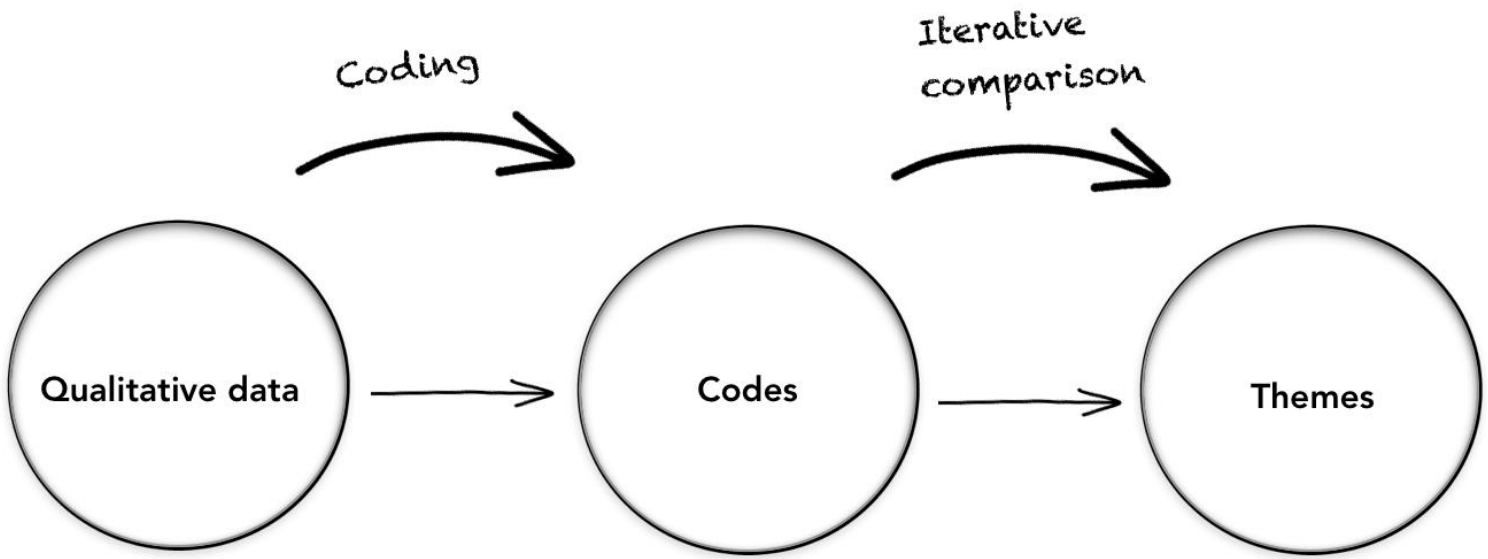


Analyzing – Case study

Data reduction

First Wave | Coding | Second Wave | Pattern | Third Wave | Theme

Identify theme to ask research question



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