# Experimental Instrumentality
—Networked effort for school transformation

**Paper 1 ：Remaking tool for social experiment in policy making activity**
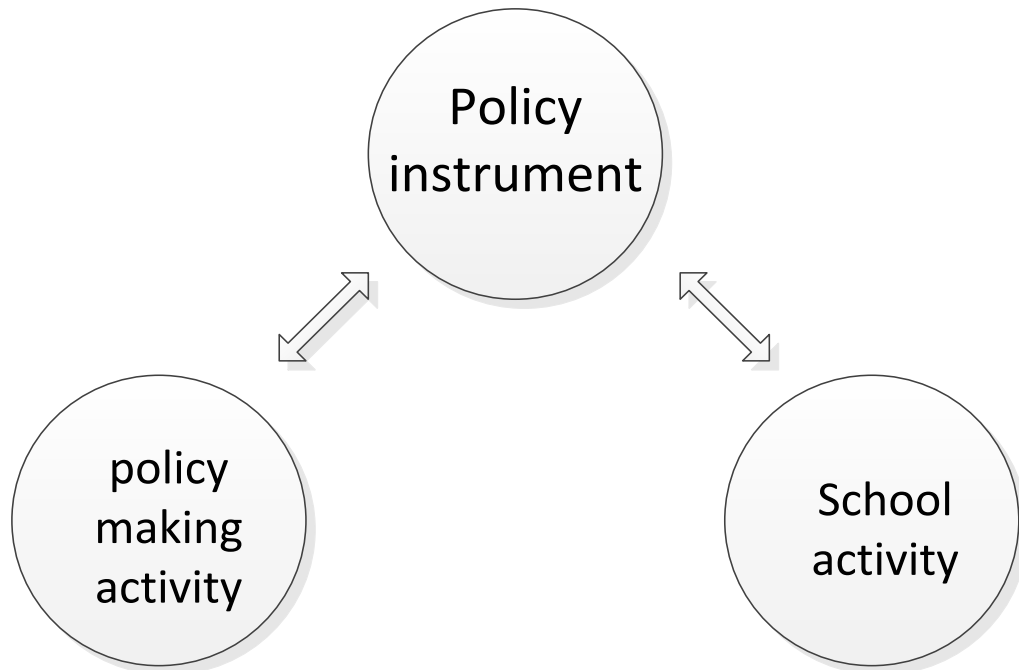
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# Problematic terminology?

- How to address educational reform?
  - Top-down & bottom-up

- Problematic concept to mediate change/ experiment in educational field
  - Power;  level;  structure;  system

# Alternative way to think
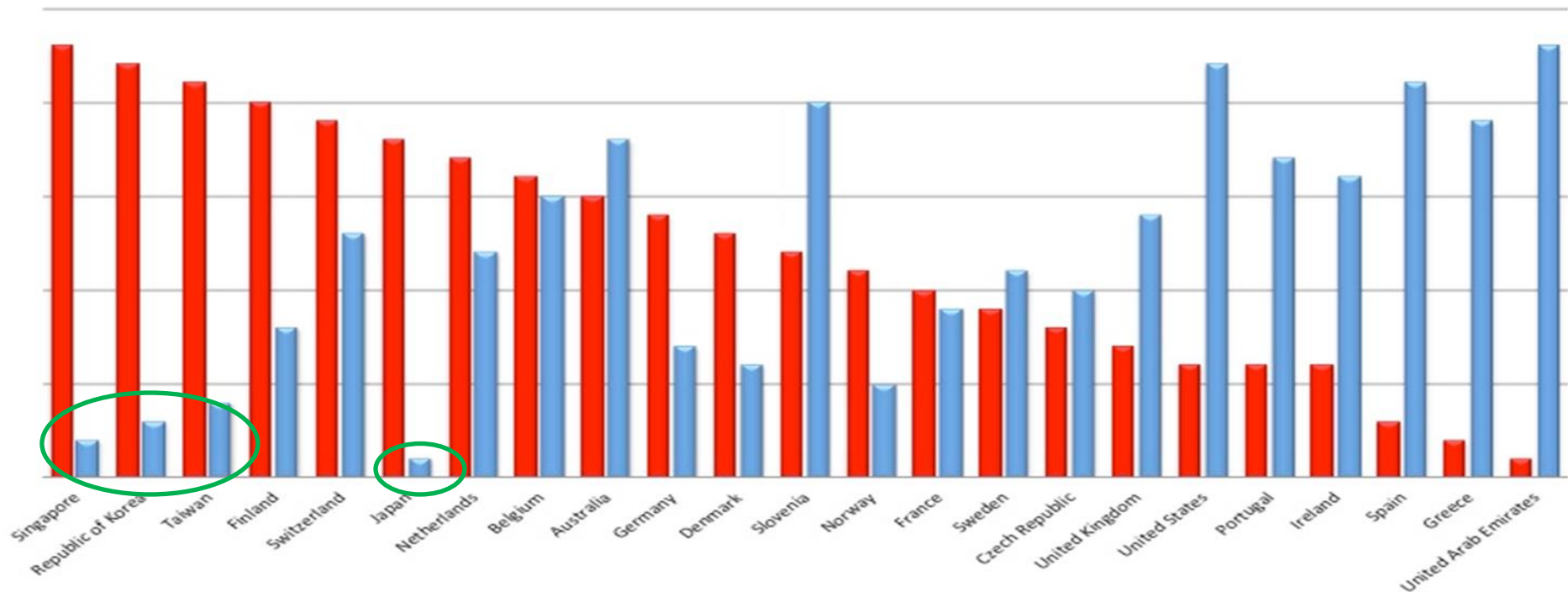
# Research purpose

- The research aims to conceptualize a zone mediating educational change,
  - namely an activity which is able to mediate network of sporadic innovations scattered in schooling field in where different agents and organizations coordinating together

# A case of school transformation in Taiwan --School Actualization Program (SAP)

- A cultural problem: high math score in PISA while lower confidence shared among students in the circle of Confucianism culture



Ranking by PISA Math Score and Perceived Entrepreneurial Capability

# A case of school transformation in Taiwan --School Actualization Program (SAP)

- A historical condition: the bureaucratic system **in a school**—a fossilized collective behavior

**Office of Principal (principal, secretary)**

| Office of accounting, Office of personnel affairs, Office of nursing, Office of discipline officers (staff), Teaching subjects (teacher) | Library (dean) | Office of consultation (dean) | Office of general affairs (dean) | Office of student affairs (dean) | Office of academic affairs (dean) |
|---|---|---|---|---|---|

- Office of accounting
- Office of personnel affairs
- Office of nursing
- Office of discipline officers ( staff)
- Teaching subjects ( teacher)

**Library (dean)**
- 1~2 sections

**Office of consultation (dean)**
- Section of counseling
- Section of data (chief)

**Office of general affairs (dean)**
- section of document
- section of general
- section of cashier (chief)

**Office of student affairs (dean)**
- Section of discipline
- Section of student life
- Section of gymnastics (chief)

**Office of academic affairs (dean)**
- Section of teaching
- Section of registration
- Section of equipment (chief)

# A case of school transformation in Taiwan --School Actualization Program (SAP)

- Agents in school transformation
  - In policy making activity
    - SAP hybrid group( from 2006~) comprises 13~21 participants including Professors, teacher, principals, officers in central government
  - In school activity
    - 263 out of 336 senior high schools in Taiwan
    - 4 case schools

# Research questions

- Q1. How did the SAP hybrid group develop artifacts for school transformation and recognize problems of implementation?

- Q2. How did schools use SAP instruments in their practices and what problems have been solved and escalated?

- Q3. What contradiction between bureaucratic tradition and new experimental ways emerged in the cooperation of SAP hybrid group?

- Q4. How did instrumentality develop?  What kind of characteristic presented in SAP policy process?

# One example



?

# Concept—ideality

- Ideality, according to Marx, is nothing else but the form of social human activity represented in the thing. Or, conversely, the form of human activity represented as a thing, as an object (Ilyenkov, 1977:86)

- Only in the reciprocating movement of the two opposing 'metamorphoses' — forms of activity and forms of things in their **dialectically contradictory mutual transformations**—DOES THE IDEAL EXIST (Ilyenkov, 1977: 99)

# Concept: artifact & instrumentality

- Primary artifacts are those directly used in production. (Wartofsky, 1973)

- Secondary artifacts: which carry externalized representation, are those used in the preservation and transmission of the acquired skills or modes of action. (Wartofsky, 1973)

- Instrumentality: Implies that the instruments form a system that includes multiple cognitive artifacts and semiotic means used for analysis and design, but also straightforward primary tools used in the daily practice and made visible for examination, reshaping and experimentation. (Engeström, Puonti and Seppänen, 2003)
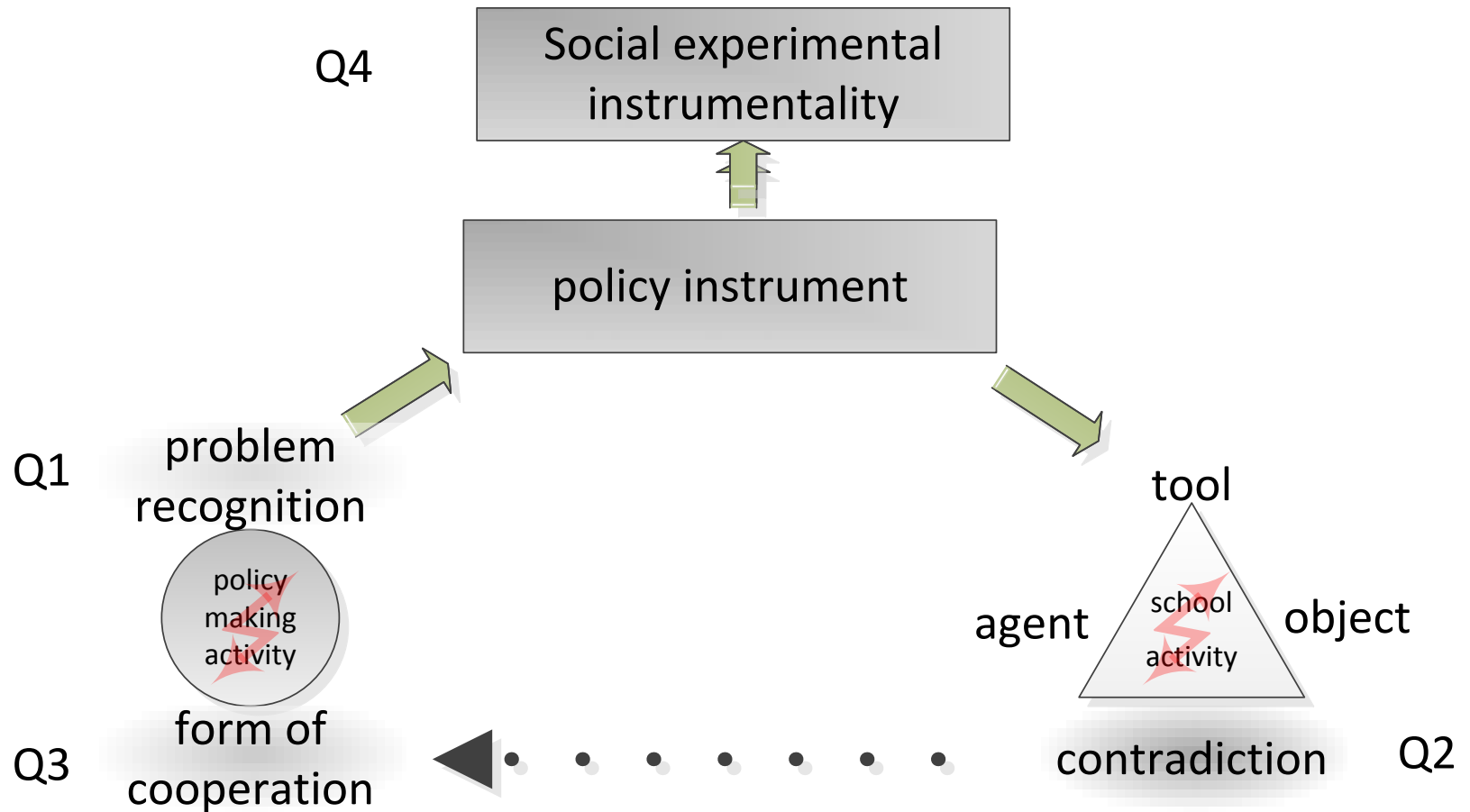
# Concept: remediation & tertiary artifact

- Remediation:  collectively adopt or elaborate (new) tools to solve problems emerging from developmental contradiction. (Miettinen, Paavola and Pohjola, 2012)

- Tertiary artifact: artifacts of the imaginative construction, abstracted from their direct representational function, as tertiary artifact; by this, a perceptual activity does become historical (Wartofsky, 1973)
  - the historical difference between instrumentality.

# Concept: contradiction

- Contradiction: Being historically accumulated structural tensions within and between activity systems, contradictions generate and manifest themselves in problems, conflicts, and disturbances (Engeström, 2000)

# A working hypothesis

# 1ˢᵗ article

- Question: How did the SAP hybrid group develop artifacts for school transformation and recognize problems of implementation?

- Main data: Records of 22 SAP hybrid meetings (2008 Oct~2012 Mar) , 2~3 hours per each time.

- Data selection: One or two meetings which have tertiary artifact capable to connect instruments, and to transform the relation between them.

# Problems for the article

- Can "play" take place in policy making activity?

- Can imagination transform relations between policy instruments?

- Can problem recognition/solving  be part of process of play,  instead of being part of competing game in a field?

Thank you for attention

Looking forward to having your comments

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