LESSON STUDY
THE TEACHER PROFESSIONAL DEVELOPMENT THROUGH LESSON STUDY IN INDONESIA: A Success Story From Yogyakarta

Contributors:
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Yogyakarta State University
Jim Spillane (2014)

- DNA of Practice
- Framing Practice as Social, Situated and Distributed
- Framing Practice = Organizational Routine
- Organizational Routine: Ideal/Conceptional & Pragmatics/Performative
Jim Spillane’s Questions:
How do we build the Social Character?
How do we redesign Formal Infrastructure?

Marsigit’s answer/theses:
Social Character and Formal Infrastructure can be built possibly through LESSON STUDY
Hermeneutics of LESSON STUDY

Theories/New Paradigm

COLLABORATION AMONG TEACHERS

PRACTICE OF TEACHING

By Marsigit, 2014
WELCOME TO YOGYAKARTA

THE CONTEXT OF LESSON STUDY (Video)
Traditional Way of Teaching

Traditional Way of Teaching

*Exposition method to teach Physics And Mathematics in Junior High School (Video)*
PART ONE
PILOTTING AND EXCHANGE EXPERIENCES OF LESSON STUDY
BY IMSTEP-JICA PROJECT
2001/2002, at three Universities:
1. UPI Bandung
2. Yogyakarta State University
3. UM Malang
EXPECTATION OF THE DIRECTORATE GENERAL OF PRIMARY AND SECONDARY EDUCATION

IMSTEP-JICA HAS ITS AIM TO IMPROVE THE QUALITY OF MATHEMATICS AND SCIENCE EDUCATION NOT ONLY IN UNIVERSITIES BUT ALSO AT SCHOOLS

- THE PROJECT NEED TO INCLUDE:
  - PILOTING OF LESSON STUDY
  - EXCHANGE EXPERIENCES
  - THE RESULTS OF PILOTING
imstep
PRE-LESSON STUDY
Review & Revise curriculum & syllabi to be more relevance with societal and professional needs.
Workshop

Purpose:

➢ To improve teachers & lecturers’ skills in handling lab facilities & activities

➢ To disseminate project outcomes

Result:

✓ Improvement in creativity to develop science & math teaching through lab activity

VIDEO WORKSHOP
The Concept of Piloting Lesson Study

PILOTHING IS THE ACTIVITY OF DEVELOPING AND TRYING OUT THE SCHEME OF LESSON STUDY
BASIC STRATEGY FOR PILOTING

PROMOTING THE NEW PARADIGM OF MATHEMATICS AND SCIENCE EDUCATION
PARADIGM TO BE PROMOTED (general)

- EDUCATION AS INVESTMENT $\rightarrow$ EDUCATION AS A NEED
- LEARNING AS OBLIGATION $\rightarrow$ LEARNING AS A NEED
- SHORT-TERM ORIENTATION $\rightarrow$ LONG-TERM ORIENTATION
- COMPETITION $\rightarrow$ COOPERATION
PARADIGM TO BE PROMOTED
(curriculum/syllabi)

- Instrumental Curriculum
  → Interactive Curriculum

- Teachers as implementer
  → Teachers as developer

- Dominant teachers
  → Students’ initiations
PARADIGM TO BE PROMOTED (curriculum/syllabi)

- Very structured curriculum → Flexible Curriculum
- Product oriented → Processes & Product Oriented
- Teacher Centered → Student Centered
- Uniformity → Diversity
PARADIGM TO BE PROMOTED
( Teaching Methodology )

- Single Method → Various Methods
- Transfer of knowledge → Constructivist
- Teachers’ Domination → Students’ Initiations
- Delivery Method → Teacher as facilitator
PARADIGM TO BE PROMOTED
(Teaching Methodology)

- Teacher Centered $\rightarrow$ Student Centered
- Product Oriented $\rightarrow$ Processes and Product Oriented
- Stressing on theories $\rightarrow$ Theories and Practical works
- Cognition $\rightarrow$ Affective, Cognition and Skills
PARADIGM TO BE PROMOTED

(Teaching Methodology)

- Classical Method ➔ Classical, Individual, Group, Laboratories
- Lecture method ➔ Lecture, Discussion, Experiment, Investigation, Practical Works
- Uniformity ➔ Diversity
PARADIGM TO BE PROMOTED
(Teaching Learning Resources)

- Chalks and Black-board ONLY → Various Teaching Aids and Laboratory Equipment
- Text-book oriented → Life Oriented
- Non-Touching material → Touching Material
PARADIGM TO BE PROMOTED

(Evaluation)

- **Product Oriented** → Processes-Skills-Product Oriented
- **Cognition** → Affective-Cognition-Skill
- **Objective Test** → Authentic Assessment, Portfolio
- **Ebtanas oriented** → Ebtanas as a tool for improving the quality of education
OBJECTIVES OF PILOTING

TO CONTRIBUTE THE IMPROVEMENT OF MATHEMATICS AND SCIENCE EDUCATION IN SCHOOLS
THE SCHEME OF IMPLEMENTATION OF PILOTING

- PLAN
- DO
- SEE
IMPLEMENTATION OF PILOTING: Research Aspects

- THROUGH CLASSROOM ACTION RESEARCH (CAR)
- AT JUNIOR AND SENIOR HIGH SCHOOLS
IMPLEMENTATION OF PILOTING

■ ON TEACHING LEARNING OF MATHEMATICS, PHYSICS, CHEMISTRY, AND BIOLOGY

■ IN THE 1ST QUARTER OF F.Y 2001/2002
IMPLEMENTATION OF PILOTING LESSON STUDY IN YOGYAKARTA

INVOLVING 16 SCHOOLS, 45 CLASSES/TEACHERS, 60 TEACHING STAFFS (lecturers)
CLASSROOM OBSERVATION:

- Teachers'/Students’ Activities
- Instructional Interaction
- Teaching Learning Context
- Pattern of Relation
- Teaching Learning Setting
- Subjects’ Involvement
- Pedagogical Logic
- Grounded Theory
THE RESULTS OF PILOTHING

- IMPROVEMENT OF TEACHING LEARNING PROCESSES
- IMPROVEMENT OF STUDENTS ACTIVITIES
- IMPROVEMENT OF STUDENTS MOTIVATION
- IMPROVEMENT OF STUDENTS PERFORMANCES
THE RESULTS OF PILOTING

- IMPROVEMENT OF TEACHERS' COMPETENCIES
- IMPROVEMENT OF EXPERIMENTAL METHODS
- IMPROVEMENT OF TEACHERS' CREATIVITY
THE RESULTS OF PILOTING

- IMPROVEMENT OF TEACHERS’ QUESTIONING SKILLS
- IMPROVEMENT OF STUDENTS’ INVOLVEMENT
- IMPROVEMENT OF STUDENTS’ ENTHUSIASM
THE RESULTS OF PILOTING

- CAIs ARE DEVELOPED FOR CHEMISTRY
- AUTHENTIC ASSESSMENT ARE DEVELOPED
- STUDENT WORKSHEETS ARE DEVELOPED
- CONSTRUCTIVIST APPROACHES ARE DEVELOPED
ISSUES AND PROBLEMS OF PILOTING

- Teachers’ perceptions of the new paradigm of mathematics and science education are varied.
- The new approaches of teaching learning take more time than the conventional ones.
- The crowded curriculum.
ISSUES AND PROBLEMS OF PILOTING

- NEED TIME TO ENCULTURING INNOVATION
- TOO MANY STUDENTS IN ONE CLASSROOM
- TEACHING LEARNING PROCESSES ARE TOO EBTANAS ORIENTED
MEETING AMONG TEACHERS, UNIVERSITY LECTURES AND JAPANESE EXPERT TO DISCUSS PREPARATION AND IMPLEMENTATION OF PILOTING THE LESSON STUDY

VIDEO
ISSUES AND PROBLEMS OF PILOTING

- NATIONAL LEAVING EXAMINATION
- TEACHERS’ RESISTENCIES FOR CHANGES
- Promoting Innovative (Constructive) teaching
CONTEXTUAL TEACHING AND LEARNING (CTL) WAS INTRODUCED AS ONE OF THE INNOVATIVE METHOD IN PILOTHING ACTIVITIES

VIDEO
<table>
<thead>
<tr>
<th>Traditional</th>
<th>Innovative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Constructive Teaching</td>
</tr>
<tr>
<td>Students</td>
<td>How to promote?</td>
</tr>
</tbody>
</table>

1/22/2014
Marsigit, Indonesia
Cooperation of 3 universities in implementing the project has improved the quality of pre-/in-service program.

School-university collaboration has strengthened the quality of teaching learning process at pilot schools and 3 universities.

IMSTEP has improved academic atmosphere and the quality of graduates in 3 universities.
EXCHANGE EXPERIENCE
EXCHANGE EXPERIENCES IS THE ACTIVITY OF SHARING AND DISCUSSING AMONG THE EDUCATORS AND STAKEHOLDERS OF THEIR EXPERIENCES AND EXPECTATION IN MATHEMATICS AND SCIENCE EDUCATION AT SCHOOLS
PART TWO
DEVELOPING LESSON STUDY

In collaboration with JICA
Lesson Study is a framework of collaboration among teachers to improve the quality of teaching in classroom.

Lesson Study should be supported by all sides of educational system.

Accountability and sustainability of its activities are the indicators of its success.
How can we develop students' centered leaning?

Pedagogical Knowledge
Lesson Study
For Developing Classroom Communication

Developing Pedagogical Content Knowledge

Plan → Research Lesson → Reflection

Content Knowledge
A teacher Educator & a teacher in a school

Several teacher educators & several teachers in a school

Several teacher educators & several teachers from several schools

Lessons Improvement
JICA's Education Sector Development Issues

- Quality Improvement
  - MSTEP Follow-up (2003-2005)
  - SISTTEMS (2006-2008)

- Education Management Improvement
  - REDIP (Phase1 and Phase2) (1999-2005)
  - REDIP (2004-2008)

Figure 1 Program Formulation
EVALUATION BY JICA (2005):

TO DETERMINE THE BANTUL DISTRICT AS THE REPRESENTATIVE SITE OF LESSON STUDY IMPLEMENTATION IN YOGYAKARTA
Lesson Study by SISTTEMS

PROGRAM FOR
STRENGTHENING IN-SERVICE TEACHER TRAINING OF MATHEMATICS AND SCIENCE EDUCATION AT JUNIOR SECONDARY LEVEL
(SISTTEEMS)
### Table 1.1  Target Kabupaten, Kecamatan and Schools

<table>
<thead>
<tr>
<th>Province</th>
<th>Kabupaten</th>
<th>No. of target kecamatan</th>
<th>No. of target schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Java</td>
<td>Sumedang</td>
<td>26</td>
<td>83</td>
</tr>
<tr>
<td>Yogyakarta</td>
<td>Bantul</td>
<td>17</td>
<td>98</td>
</tr>
<tr>
<td>East Java</td>
<td>Pasuruan</td>
<td>24</td>
<td>103</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3</strong></td>
<td><strong>67</strong></td>
<td><strong>284</strong></td>
</tr>
</tbody>
</table>

Note: Target schools do not include private MTs.
Lesson Study in 3 Districts of Java: JICA’s main project sites

Lesson Study was introduced to three Indonesian leading Teacher Education Institutions in Java Island (UPI: Bandung, UNY: Yogyakarta, UM: Malang) in partnership with junior high school teachers and district office of education.

- Indonesia University of Education (UPI)
  - SUMEDANG DISTRICT
    - 94 Junior HSs
    - 556 Teachers
    - 94 Principals
    - 8 Superintendents

- State University of Yogyakarta(UNY)

- State University of Malang (UM)
  - All Junior Secondary Schools/Madrasah, Pasuruan District

- All Junior Secondary Schools/Madrasah, Bantul District
Figure 8.1 Organizational Structure of the Program
3. Developing Operational Procedure for the Implementation of Lesson Study

Form a LS group → Develop learning goals

**PLAN:**
1. Select one topic as a research theme
2. Develop a research lesson
3. Develop an observation sheet
4. Do micro teaching
5. Revise the research lesson

**DO – SEE:**
1. The model teaches
2. The others observes the students’ activity

**REFLECTION:**
1. Reflect the LS activity based on the evidences have found (discussion and analyze) on observation sheet
2. The result of the reflection is used to revise the research lesson

**OPTIONAL:**
Do second PLAN-DO-SEE and Reflection activity, invite one/more outside observers

NEXT PLANNING:
Deciding the next Open Class activity (who will be the model, when and where the LS activities will be held, which classroom and what topic will be taught)
Group Meetings (Research & Preparation)

Studyn lesson (Teaching & Observation)

Group Meetings (Reflection & Improvement)
Lesson Study: the case of Yogyakarta

In 2001, the number of schools involved were 21 schools both Senior and Junior high Schools (one school for one subject matter only)
In 2002, it was extended into 42 schools (one school for one subject matter only).
In 2003, the number of schools was decreased into 6 schools only (3 Junior High Schools and 3 Senior High Schools) for all subjects of mathematics and science in each school.
In 2004, it was changed into new schools with almost 105 schools in one regency, which involved Subject Matter Teachers Organization (MGMP).
In 2005, lesson study covered schoolteachers in two regencies with almost 115 schools, which involved Subject Matter Teachers Organization (MGMP).
Earthquake at the Site of Lesson Study

- In 2006, it is fully implemented in one regency which focused only on public & Islamic Junior High Schools in Bantul regency
Earthquake at the Site of Lesson Study

(up to the Earthquake occurred, May 27, 2006). video
IDCJ Report 2006

Policy-making, Planning and Study Projects
Program for Strengthening IN-Service Teacher Training of Mathematics at Secondary Level (SISTTEMS) (Year 1)

SISTTEMS is a sequel to IMSTEP, a JICA-assisted project to improve mathematics in Indonesia (1998-2005). While IMSTEP mainly targeted university faculty members, SISTTEMS focuses directly on school teachers and principals through a lesson study (localization for professional development). The program’s objective is to improve the secondary level by reorganizing and revitalizing MGMP for mathematics and science. The model is lesson study. In the program, experiences from another JICA-assisted project in Indonesia, REDIP, will be fully referred to and incorporated.

Three districts on Java are the targets: Kabupaten Sumedang (West Java), Kabupaten Pasuruan (East Java). All junior high schools except private Islamic schools participate in the program (284 in total). The three universities that were the counterparts of IMS are partners and facilitators in this SISTTEMS.

In 2006, the program has been modified to implement a special subprogram for the education community in Kabupaten Bantul, which was severely affected by the earthquake and tsunami disaster.
Post Earthquake Lesson Study 2007-2013 (MGMP BASED LS)
MGMP (Musyawarah Guru Mata Pelajaran) is a non-structural organization of teachers, whose establishment is stipulated in the Government Regulation No. 38/1994 on Education Personnel. It is a professional forum for subject teachers at the kabupaten/kota level. According to the guidelines issued by the then Directorate General of Primary and Secondary Education, MGMP has five objectives:

1. To encourage teachers to improve their ability and skills to plan, implement and evaluate teaching and learning activities;
2. To discuss problems faced by teachers to carry out their daily responsibilities and to propose solutions in accordance with the characteristics of the subject matter, teachers, school conditions, and communities;
3. To provide teachers with opportunities to share information and experience about the implementation of curriculum and the development of science and technology;
4. To provide teachers with opportunities to express their ideas at MGMP meetings to improve their professional skills; and
5. To develop cooperation with other institutions to develop a conducive, effective and enjoyable teaching and learning process.

MGMP is organized in each kabupaten/kota. MGMP Committee is elected from among the member teachers. The Committee consists of Chairperson, Secretary, Treasurer, Coordinator for Activity Program, Coordinator for Material Development, and Coordinator for Reporting/Publication. Its organizational structure is shown in Figure 4.1.

From SISTTEM
The Structure of MGMP
<table>
<thead>
<tr>
<th>Day</th>
<th>Subject for MGMP activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Civics, Indonesian Language, Religious Education</td>
</tr>
<tr>
<td>Tuesday</td>
<td>English</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Thursday</td>
<td>Social Studies, History, Geography, Economics, Anthropology</td>
</tr>
<tr>
<td>Friday</td>
<td>-</td>
</tr>
<tr>
<td>Saturday</td>
<td>Science, Chemistry, Biology, Physics, Physical Education</td>
</tr>
</tbody>
</table>
MGMP BASED
LESSON
STUDY
Participant

Junior High School Mathematics and Science Teachers in Bantul District from 17 Sub District, consists of 331 teachers.
## PARTICIPANT

<table>
<thead>
<tr>
<th>Home Base</th>
<th>Subdistrict</th>
<th>Numbers of School</th>
<th>Numbers Of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Bantul</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>II</td>
<td>Sewon, Pleret</td>
<td>11</td>
<td>44</td>
</tr>
<tr>
<td>III</td>
<td>Sedayu, Kasihan, Pajangan</td>
<td>14</td>
<td>46</td>
</tr>
<tr>
<td>IV</td>
<td>Pandak, Sanden, Srandakan</td>
<td>12</td>
<td>46</td>
</tr>
<tr>
<td>V</td>
<td>Pundong, Kretek</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>VI</td>
<td>Jetis, Bambanglipuro</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>VII</td>
<td>Banguntapan, Piyungan</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>VIII</td>
<td>Imogiri, Dlingo</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Jumlah</td>
<td>94</td>
<td>332</td>
</tr>
</tbody>
</table>
Subject Matter of Mathematics:
Once two weeks on Thursday, 08.00 – 13.00

Subject Matter of Science:
Once two weeks on Saturday, 08.00 – 13.00
Schedule

1. There were 17 Sub Districts which involved in Lesson Study
2. To establish the Lesson Study group of 8 Home Bases
3. In Each Home Base there were 2 Supervisors (lectures from Yogyakarta State University)
Developing the Scheme

Three main steps of lesson study:

1. **Plan** (preparation)
2. **Do** (implementation and observation)
3. **See** (reflection/review)
Steps of Lesson Study

Three main steps of lesson study:
1. Plan (preparation)
2. Do (implementation and observation)
3. See (reflection/review)
The Plan activity for teaching learning process covers:

- To review Syllabi
- To develop Lesson Plan
- To develop Students’ Worksheet
- To develop Observation Sheet, and
- To prepare class management
To implement teaching learning process and observation activities:

- Teacher Model
- Other teachers as observer
DO
DO
DO
DO
There was a meeting consisting of Teacher Model, Supervisors, Observers, and Stakeholders.

The Teacher Model was to reflect on his teaching.

There was a discussion and sharing of ideas on how to improve the quality of teaching.

22 Januari 2014
MGMP-BASED LESSON STUDY

PLAN — DO — SEE

Mathematics and Natural Sciences

(Video)
MONITORING

Bantul Educational Office every year conduct monitoring the Lesson Study activities.
Lesson Study

1. To continue the previous plan
2. Starting from April 2007 to June 2008, each Lesson Study Home Base carried out 12 Lesson Study activities (Plan, Do, See)
School-Based Lesson Study

Developing the New Scheme

To be considered to extend DO and SEE activities from a certain PLAN

2008/2009 up to present
2008/2009 up to present

Developing the Scheme

3-4 Plans followed by 6 -7 Do and See
Subject Matters to be Lesson-Studied (extension) in SBLS

Mathematics
Natural Science
Biology

English
Jawa Language
Art and Culture
Civic

Social Science
Islamic Religion
Physic
Impact: ISLAMIC SCHOOL- BASED LESSON STUDY 2011 – present
(Video: LS on Social Sciences)
Kamis, 05 Mei 2011

LESSON STUDY BERBASIS MADRASAH DI MTsN PUNDONG

Pendidikan harus mengarah pada pembentukan peserta didik yg adil, demokratif,terbuka, berkemajuan, saling menghargai/menghormati, aktif, kreatif inovatif, berkarakter/berakhlakul karimah.

Teori pembelajaran yg bagaimanapun, dipraktekkan dalam pembelajaran di SMK. SMK sebagai lembaga pendidikan tingkat menengah yang dilaksanakan untuk menyiapkan calon generasi muda yang mempunyai keterampilan. SMK juga mampu memberikan peluang untuk mempersiapkan calon generasi muda yang akan menjadi komunitas yang baik.

PENGURUS MGMP SBK KAB. BANTUL

Ketua 1 : H. Mulyo Rejoso, S.Pd
MTSN Sumberagung

Ketua 2 : Drs. Sutanto
MTSN Pundong

Sekrt. 1 : Fauka Nurul, S.Pd
MTSN Sumberagung

Sekrt. 2 : Syakroni
MTSN Giriloyo
THE RESULTS OF LESSON STUDY

Teachers participation 60% – 75%
The teachers be more concerned about their students differences
The teachers strived to facilitate students activities
The teachers employed various method of teaching
The teachers employed various method of evaluation

22 Januari 2014
THE RESULTS OF LESSON STUDY

The teachers strived to connect the relationship among Subject-Matter

The teachers developed Contextual Teaching Learning (CTL) approach

The teachers developed various interaction

The teachers employed small group discussion

The teachers developed the scheme for competences achievement

The teachers facilitated their students to be more active

The teachers employed various teaching aids

The teachers employed various learning resources

The teachers strived to implement new paradigm of teaching

22 Januari 2014
THE RESULTS OF LESSON STUDY

The teachers were more passion to facilitate their students
The teachers have their habit to reflect their experiences of teaching
The students were more interested to learning object
The students were more motivated to engage in teaching learning processes
The students were more active in the class

22 Januari 2014
Lesson Study is to be perceived as a useful and effective framework to develop teachers professionalism by performing their accountability and sustainability of teaching, through collaboration among the sides of educational practices consist of teachers, supervisor, lectures and stakeholders.
Seminar (Sharing Experience) on Results of Lesson Study

- Sharing the results of lesson study for all groups, teachers, lecturers, and stakeholders
- Sharing any common problems found during the implementation of lesson study
- Sharing any good solution to solve those above problems
- Reporting and writing final result of the lesson study implementation as well as its possibility to enhance into wider scope both teachers and schools
Record of Lesson Study Seminar in Faculty
(Sharing experience among schoolteachers, lecturers, Experts, & Stakeholders)
TRAINING ON LESSON STUDY
Sample:
Sample: Lesson I part A)

**Aim**: To identify the formula of the total area of a right circular cylinder

**Problem Formation and Comprehension**
Lesson II

Aim: To identify the formula of the volume of right circular cone.
Aim: to identify the formula of the area of a sphere.

Introduction:

**Problem Formation and Comprehension**

- Teacher let the students observe the given model of Sphere (Concretization and Induction)
- Teacher let the students identify the components of Sphere (Abstraction)
- Teacher let the students define the concept of Sphere (method of abstraction)
- Teacher’s explained the way to find the area of the surface of Sphere.
Aim: To identify the formula of the total area of a right circular cylinder.
Aim: to identify the formula of the area of sphere
Aim: To identify the formula of the total area of a right circular cylinder.
Aim: to identify the formula of the area of sphere
(Lesson I part B)

Aim: to identify the formula of the area of sphere
Lesson II

Aim: To identify the formula of the volume of right circular cone.
Lesson II

Aim: To identify the formula of the volume of right circular cone.
Lesson II

Aim: To identify the formula of the volume of right circular cone.
Dissemination/Extension of Lesson Study throughout Indonesia

WEST JAWA → SUMATRA

JOGJA/CENTRAL JAWA → KALIMANTAN

EAST JAWA → SULAWESI
Dissemination/Extension of Lesson Study throughout Indonesia

Indonesia and Lesson Study core cities in this presentation

- Banjarbaru (LSc)
- Jakarta, the capital
- Bandung, UPI & GagasCeria (LSMGMP, LSBS)
- Minahasa (LSc)

From Tatang Suratno
Dissemination/Extension of Lesson Study through out Indonesia

1. YSU + Bantul District ->
   - All subdistrict in Yogyakarta
   - Banjarbaru South Kalimantan
2. UPI + Sumedang ->
   - All subdistrict in West Jawa
   - Padang, West Sumatra
3. UM Malang + Pasuruan ->
   - All subdistricts in Yogyakarta
   - North Minahasa, Sulawesi

1/22/2014
The Ultimate Issue and Problem of Lesson Study in Indonesia

Traditional

Innovative

Constructive Teaching

Teacher

Students

How to account?

How to sustain?
TESTIMONIES

- Recorded Teachers: (Video)
  - Principal of MTs Bantul Kota
  - Physics Teacher of MTs Bantul Kota
  - Principal of SMP 1 Bangun Tapan
  - Biology Teacher of SMP 1 Banguntapan
- Head of Basic Education Office of Bantul District (Mr Totok Sudarto) (Life)
- Participant Students (Fikki Ari Nugroho & Arum Yuliana) (Life)
THANK YOU

TERIMA KASIH

http://powermathematics.blogspot.com
http://uny.academia.edu/MarsigitiHrd
http://staff.uny.ac.id
http://hrd.apec.org/index.php/Portal:_Lesson_Study