Developing Teacher Training Textbooks for Lesson Study in Indonesia

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Tokyo, 17-21 February 2010

By
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Yogyakarta State University Indonesia
Email: marsigitina@yahoo.com
Weblog: http://powermathematics.blogspot.com
Part 1:
Education Reform and Teachers’ Professional Development In Indonesia
Part 1:
Developing Textbook As Part of Teachers’ Professional Development Through Lesson Study Activities
Developing Teaching Learning Processes

- Planning
- Classroom management
- Students’ construct their knowledge
- Using resources
- Developing ICT knowledge and skills
SOME ASPECTS OF TEXTBOOK DEVELOPMENT

1. Policy for textbooks publication
2. Developing the textbook for teachers
3. Developing the textbook for students
4. Distributing and providing the textbooks
GOVERNMENT POLICY
FOR NATIONAL TEXTBOOK

1. There is no monopoly for providing national textbook
2. The schools select for themselves for using the textbook for no longer than 5 years
3. The students are free to select their textbooks and to buy them at bookstores
4. The teachers are forbidden to sell the textbooks
5. The schools have obliged to provide the textbook for their lower economic students
6. The Ministry of Education have the right to copy the books, to publish and sell them with the lower prizes.
7. The Ministry of Education encourages the District to have their own book-stores.
Teachers’ Competencies of Developing Textbooks

- Motivation
- Theory
- Community Experiences
- Systemic Experiences
- Attitude
- Practice
- Individual Experiences
National Standard of Competencies for Junior High School Mathematics in Indonesia Covers:

Numbers
- To understand and hold arithmetical operation using numbers to solve problems

Measurement and Geometry
- To understand and use the properties of line, angle, two and three dimensions geometrical shape to solve problems
- To understand and identify the properties and the component of triangle and use them to solve problems
- To understand and identify the properties and the component of circle and use them to solve problems
- To identify the properties and the component of non convex edge three dimensions geometrical shape
- To identify the properties and the component of convex edge three dimensions geometrical shape

Probability and Statistics
- To hold statistical activities

Algebra
- To understand, hold and use algebraic operations, linear inequalities with one variable and sets to solve problems.
- To understand, hold and use algebraic operations, functions, line equations, and equation systems to solve problems
- To hold operations with negative exponents numbers and logarithm.
- To describe pattern and series of numbers and use them to solve problems.
- To understand and use quadratic equations to solve problems.
**Novice Teachers’ Perception on Good Textbook for Mathematics**

<table>
<thead>
<tr>
<th>No</th>
<th>Novice Teacher who do not have experienced in Lesson Study Activities (N Total = 15)</th>
<th>Novice Teacher who has experienced in Lesson Study Activities (N Total = 15)</th>
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<td></td>
<td><strong>Unstructured Perceptions</strong></td>
<td><strong>Unstructured Perceptions</strong></td>
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<tr>
<td>1.</td>
<td>The textbook should be systematic</td>
<td>The textbook should be understandable, meaningful, and consist of good example</td>
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<tr>
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<tr>
<td>2.</td>
<td>The textbook should be completed by exercise</td>
<td>The textbook should have a good design</td>
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<td>3.</td>
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<td>It should be interesting in display, performance and good illustration and good layout</td>
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<td>The textbook should have a good design</td>
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<tr>
<td>7.</td>
<td>The textbook should use simple, communicative and standard language</td>
<td>It should be innovative</td>
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<tr>
<td>8.</td>
<td>It should comprehensive in term of content and students’ competence (affective, psychomotor and cognitive)</td>
<td>It should comprehensive in term of content and students’ competence (affective, psychomotor and cognitive)</td>
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<td>It should facilitate students’ activities</td>
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<td>13.</td>
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<td>It should contain good problem solving</td>
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<td>It should promote active learners</td>
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<td>21.</td>
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<td>22.</td>
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<td>It needs to promote mathematical thinking</td>
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<td>23.</td>
<td>How to develop contextual textbook</td>
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<td>24.</td>
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# Experienced Teachers’ Perception on Good Textbook for Mathematics

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<tr>
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<td>The Textbook should be completed by exercise</td>
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<td>11</td>
<td>How to develop contextual textbook</td>
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<td>12</td>
<td>It should be relevant and applicable to daily life</td>
<td>It should be relevant and applicable to daily life</td>
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<td>53.34%</td>
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<td>It needs to develop assessment</td>
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<tr>
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<td>It should match with students competencies (needs)</td>
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<td>It should be a life-skill approach textbook</td>
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<tr>
<td>21</td>
<td>It should be completed with problem solving activities</td>
<td>It should be completed with problem solving activities</td>
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<tr>
<td>22</td>
<td>It should be completed with problem posing activities</td>
<td>It should be completed with problem posing activities</td>
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<td>It should be completed with open ended activities</td>
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<td>24</td>
<td>It promotes self learner/self using</td>
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<tr>
<td>25</td>
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<td>It should be a scientific book</td>
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</table>
# Novice Teachers’ Perception of the Constraints of Developing Textbook for Mathematics

<table>
<thead>
<tr>
<th>No</th>
<th>Novice Teacher who do not has experienced in Lesson Study Activities (N Total = 15)</th>
<th>Novice Teacher who has experienced in Lesson Study Activities (N Total = 15)</th>
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<td>Unstructured Indications</td>
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<tr>
<td>1</td>
<td>Difficult to develop the design of textbook</td>
<td>Difficult to determine the theme of textbook</td>
</tr>
<tr>
<td></td>
<td>6.67%</td>
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<tr>
<td>2</td>
<td>It is difficult to develop comprehensive textbook</td>
<td>Difficult to collect references</td>
</tr>
<tr>
<td></td>
<td>13.34%</td>
<td>6.67%</td>
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<tr>
<td>3</td>
<td>It is difficult to develop interesting and good illustration textbook</td>
<td>Difficult to manage/allocate the time</td>
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<td></td>
<td>20.00%</td>
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<tr>
<td>4</td>
<td>How to develop thematic textbook</td>
<td>It need to budget</td>
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<tr>
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</tr>
<tr>
<td>5</td>
<td>Textbook as a guide book for students</td>
<td>It lack of skill to write or produce good textbook</td>
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<tr>
<td>6</td>
<td>Difficult to determine the theme of textbook</td>
<td>The idea or concepts of textbook and its paradigm</td>
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<tr>
<td>7</td>
<td>Difficult to collect references</td>
<td>Difficult to manage/allocate the time</td>
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<td>Difficult to manage/allocate the time</td>
<td>It need to budget</td>
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<tr>
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<td>The idea or concepts of textbook and its paradigm</td>
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<tr>
<td>12</td>
<td>How it content problem solving</td>
<td>How it uses simple, communicative and standard language</td>
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<tr>
<td>13</td>
<td>How it uses simple, communicative and standard language</td>
<td>How to develop curriculum-based textbook</td>
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<tr>
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<td>How to develop curriculum-based textbook</td>
<td>Psychological aspect of students e.g to motivate the students</td>
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<td>Psychological aspect of students e.g to motivate the students</td>
<td>How it promotes students as active learners</td>
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<td>6.67%</td>
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<tr>
<td>16</td>
<td>How it promotes students as active learners</td>
<td>How to meet with students characteristic and students’ need</td>
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<td></td>
<td>6.67%</td>
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<tr>
<td>17</td>
<td>How to meet with students characteristic and students’ need</td>
<td>How to make it as contextual textbook</td>
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<td>33.34%</td>
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<tr>
<td>18</td>
<td>How it adapts the theory of education</td>
<td>How it promotes mathematical thinking</td>
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<tr>
<td>19</td>
<td>How it promotes mathematical thinking</td>
<td>How it can be used by all students/</td>
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<td></td>
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<tr>
<td>20</td>
<td>How it can be used by all students/</td>
<td>How to make it as a standardized textbook</td>
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<tr>
<td>21</td>
<td>How to make it as a standardized textbook</td>
<td>How to facilitate students competences</td>
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<td><strong>Unstructured Indications</strong></td>
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<tr>
<td>1.</td>
<td>Unsupported Publisher Perception/</td>
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<td>2.</td>
<td>It need supporting beaucracy/system (it need supporting regulation from the gov.)</td>
</tr>
<tr>
<td>3.</td>
<td>It is difficult to find sponsorship or counterpart/</td>
</tr>
<tr>
<td>4.</td>
<td>Difficult to manage/allocate the time</td>
</tr>
<tr>
<td>5.</td>
<td>How it uses simple, communicative and standard language</td>
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<td>7.</td>
<td>How to match with students competencies (needs)</td>
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<tr>
<td>8.</td>
<td>How to develop life-skill approach textbook</td>
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<tr>
<td>9.</td>
<td>How to develop contemporary textbook</td>
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<tr>
<td>10.</td>
<td>How to develop textbook as student media to learn</td>
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<td>11.</td>
<td>How to develop contextual textbook</td>
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<tr>
<td>12.</td>
<td>How to develop interactive textbook e.g. completed by CD or link to internet</td>
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<td>13.</td>
<td>It lack of references</td>
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<td>14.</td>
<td>It needs to develop assessment</td>
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<td>15.</td>
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<td>16.</td>
<td>How it promotes active learner</td>
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<td>17.</td>
<td>How to develop its students worksheet</td>
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<td>18.</td>
<td>How to develop innovative textbook</td>
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<tr>
<td>19.</td>
<td>How it should be interesting in display, performance and good illustration and good layout</td>
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<tr>
<td>20.</td>
<td>How to promote mathematical thinking and creativity</td>
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</table>
THE STEP FOR PUBLISHING THE TEXTBOOK

TO BE PUBLISHED

PUBLISHER

MODEL → REVIEW → DECISION → REVISION → FEASIBLE

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WRITER

INSTRUMENT
THANK YOU