

添付資料 2

PDM の変遷

Project Design Matrix (PDM0) – Draft_0620

Date of formulation: June 20, 2010

Project title: Strengthening the capacity of teacher trainings at Primary Teachers Training Institutes to improve classroom teaching

Duration: October 2010 - September 2016 (6 years)

Target Site: All PTIs in the country

Target Groups: Ministry of Primary and Mass Education (MOPME), Directorate of Primary Education (DPE), National Academy for Primary Education (NAPE), National Curriculum and Textbook Board (NCTB), Primary Teacher Training Institutes (PTIs), Upazila Resource Centers (URCs), Upazila Education Offices (UEOs), Peripheral primary schools to the target PTIs,

End beneficiaries: PTI Instructors and Trainees, Teachers and Students in primary schools

Project Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
【Super goal】 MDGs (GOAL 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION) in Bangladesh is fulfilled	<ul style="list-style-type: none"> Net enrollment rate of primary pupils Completion rate of primary pupils 	Statistical data, survey reports on the indicators shown (on the left column)	(the below to be identified at the start)
【Overall goal】 The quality of teaching at school level in Bangladesh is improved (contributing to the fulfillment of objectives of PEDPII / PROG 3)	<ul style="list-style-type: none"> Learning achievement of primary pupils <i>Indicators on teacher education and development set in PROG3 (to be identified at the start)</i> Indicators relevant to Continuous Professional Development (CPD)¹ is considered. 	Do	<ul style="list-style-type: none"> Teacher-pupils ratio has not been drastically worsen Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
【Project purpose】 The effective teacher training to improve classroom teaching and learning at primary school is in place.	<ul style="list-style-type: none"> Changes and enhancement on completion rate, progress of learning achievement of pupils at the target schools Indicators on the competency/standard of target primary teachers 	Do	<ul style="list-style-type: none"> PROG3 is implemented as scheduled New DPEd for PTIs continues after introduced Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
【Outputs】 1. The system and contents of teacher training are improved	<ul style="list-style-type: none"> Course outline and modules of Diploma in Primary Education (DPEd) integrating TP Teacher training calendar by DPE Course contents of subject-base training and sub-cluster training 	Do	<ul style="list-style-type: none"> New DPEd for PTIs is in place as planned Primary curriculum is revised as planned Vacancies of the posts in NAPE and PTI are filled Subject base training and sub-cluster training continue
2. The capacities of PTIs for quality teacher training are strengthened.	<ul style="list-style-type: none"> PTI cluster-based workshops done (frequency and times) Professional capacity of PTI instructors Indicators of training at PTI related to PROG3 (to be identified at the start) 	Do	
3. The quality of teaching and learning at target schools is enhanced.	<ul style="list-style-type: none"> Result of classroom monitoring Indicators of classroom teaching and learning improvement related to PROG3 (to be identified at the start) 	Do	

¹ Continuous Professional Development (CPD) here shall be consistent and harmonious with that of PROG 3.

【Activities】	【Input】	
<p>[For Output 1]</p> <p>1-1 Provide technical advice to PEDP-II/PROG 3 as member of the quality working group to organize assessment of pre-service and in-service teacher training in order for DPE to structure and implement effective teacher training system</p> <p>1-2 Integrate Teaching Packages in new DPEd developed by PEDP II</p> <p>1-3 Assist NCTB/DPE to revise primary curriculum and textbooks</p> <p>1-4 In order for Training Division of DPE to design comprehensive teacher training program, study the situation and propose effective teacher training program for Subject-based Training (URC) and Sub-cluster Training (AUEO) at Midterm Review (MTR) of PROG 3</p> <p>1-5 Propose improved monitoring methods for teacher training program in PROG 3</p> <p>[For Output 2]</p> <p>2-1 Identify the PTI clusters</p> <p>2-2 Identify the PTI cluster center in each PTI cluster</p> <p>2-3 Conduct introductory training about PTI cluster activities for all the PTI superintendents at NAPE</p> <p>2-4 Conduct introductory training about PTI cluster activities for all the PTI instructors (math and science) at NAPE</p> <p>2-5 Conduct Study Group Activity (SGA) at targeted PTI cluster (1st phase) with PTI instructors to discuss common issues and exercise problem solving</p> <p>2-6 Conduct Study Workshop (SW) at targeted PTI cluster (1st phase) with PTI instructors, URC instructor, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”</p> <p>2-7 Conduct Study Group Activity (SGA) at targeted PTI cluster (2nd phase) with PTI instructors to discuss common issues and exercise problem solving</p> <p>2-8 Conduct Study Workshop (SW) at targeted PTI cluster (2nd phase) with PTI instructors, URC instructor, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”</p> <p>2-9 Conduct Study Group Activity (SGA) at targeted PTI cluster (2nd phase) with PTI instructors to discuss common issues and exercise problem solving</p> <p>2-10 Conduct Study Workshop (SW) at targeted PTI cluster (2nd phase) with PTI instructors, URC instructor, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”</p> <p>2-11 Assist DPE/NAPE to monitor PTI Cluster centers and other PTIs</p> <p>2-12 Organize annually follow up training for all the PTI superintendents at NAPE</p> <p>2-13 Organize annually follow up training for all the PTI instructors (math and science) at NAPE</p> <p>2-14 After field verification, propose replicable primary teacher support model for nationwide during MTR of PROG 3</p> <p>2-15 Study C-in-Ed/DPEd and propose effective teacher training program for PTIs by MTR of PROG 3</p> <p>[For Output 3]</p> <p>3-1 Conduct pre-activity survey about primary teachers' competencies and standard.</p> <p>3-2 Select piloting schools in targeted PTI clusters to conduct activities for lesson improvement by using Teaching Packages</p> <p>3-3 Conduct annually impact survey about improvement before/after JICA's interventions in terms of key indicators about quality of education in PROG 3</p> <p>3-4 Conduct preliminary impact survey about primary teachers' professional competencies before MTR of PROG 3</p> <p>3-5 Conduct post-activity survey about primary teachers' competencies and standard</p>	<p>< Japanese side ></p> <p>(1) Experts</p> <ul style="list-style-type: none"> - Team leader - Teacher education and training - Educational administration - Development partners coordination - Teaching & learning method in science - Teaching & learning method in mathematics - Training management and monitoring - Education evaluation - Other necessary fields <p>(2) Overseas Trainings</p> <p>(3) Trainings, seminars and workshops in Bangladesh</p> <p>(4) Equipment</p> <p>< Bangladeshi side ></p> <p>(1) Counterparts</p> <ul style="list-style-type: none"> · DPE · NAPE · PTIs <p>(2) Operational cost and personnel expenses at Counterpart organizations</p> <p>(3) Facilities and Equipment at project site</p> <p>(4) Activities for the relative areas of Component 2 of PROG 3 (Pool fund)</p>	<p>• New DPEd for PTIs is in place as planned</p> <p>• Vacancies of the posts in NAPE and PTIs are properly filled</p> <p>• The delay or cancel of budget allocation, due to the ineffective development of other areas or components of PROG-3 which the project is not involved with, does not happen</p> <p>[Pre-conditions]</p> <p>PROG-3 has been started as planned under the agreement of Bangladeshi Government and Development Partners</p>

Project Design Matrix (PDM1)

Date of formulation: 20 August 2013

Project title: Strengthening the capacity of teacher trainings at Primary Teachers Training Institutes to improve classroom teaching

Duration: October 2010 - September 2016 (6 years)

Target Site: All PTIs in the country

Target Groups: Ministry of Primary and Mass Education (MOPME), Directorate of Primary Education (DPE), National Academy for Primary Education (NAPE), National Curriculum and Textbook Board (NCTB), Primary Teacher Training Institutes (PTIs), Upazila Resource Centers (URCs), Upazila Education Offices (UEOs), Peripheral primary schools to the target PTIs,

End beneficiaries: PTI Instructors and Trainees, Teachers and Students in primary schoolsⁱ

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
【Super goal】 The quality of primary education in Bangladesh is enhanced	1. KPI1: Level of achievement in mathematics in Grade 3 2. KPI2: Level of achievement mathematics in Grade 5 3. KPI3: Terminal examination pass rate in Grade 5 4. KPI8: Net enrollment rate 5. KPI12: Completion rate of primary education	ASPR	
【Overall goal】 The new teaching method ⁱⁱ is disseminated in mathematics and science in primary education	1. Lesson study is conducted at least once a year at more than xx% of URC model schools. 2. More than xx% of primary school teachers use contents or concepts of “Teaching Package” in math and science	1. School record 2. Interview with head teachers and teachers	<ul style="list-style-type: none"> • Teacher-pupils ratio has not been drastically worsen
【Project purpose】 The new teaching method is implemented in math and science in primary education	1. Grading scale for Lesson observation ⁱⁱⁱ (Rubric: 1-5 point scale each) shows higher than 2.5 points in category one, 2.5 points in category two, 2.0 points in category three in math and science in primary schools. 2. More than 50% of primary school teachers use contents or concepts of “Teaching Package” 3. Lesson study is conducted at least once a year at more than 50% of URC model schools.	1. Result of analysis on lesson observation 2. Interview or questionnaire survey with head teachers and teachers 3. Record on implementing Lesson Study at each primary school	<ul style="list-style-type: none"> • PEDP3 is implemented as scheduled • New DPEd for PTIs continues after introduced • Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
【Outputs】 1. The contents of the textbooks in math and science in primary education are improved.	1. Essence of the new teaching method is reflected in the revised textbooks in math and science in primary education. 2. Essence of the new teaching method is reflected in the revised teacher's guides in math and science in primary education.	1. Revised textbooks 2. Revised teacher's guides	<ul style="list-style-type: none"> • Primary curriculum is revised as planned • Subject base training and sub-cluster training continue

<p>2. The systems and contents of teacher training are improved.</p>	<ol style="list-style-type: none"> 1. The curriculum, textbooks and manual for DPED which the new teaching method are reflected are disseminated. 2. More than 50% of PTI instructors (math and science) can implement and evaluate in service teacher training appropriately. (PTI instructors who can get more than 70% points of post test score and lesson evaluation) 3. More than xx% of teachers can understand x% of contents of in service teacher training. * 	<ol style="list-style-type: none"> 1-1. Curriculum, textbooks and manual of math and science for DPED 1-2. The result of analysis on evaluation of lessons comparing new DPED graduates and C-in Ed graduates 2-1. The result of pre/post test of PTI instructors (math and science) 2-2. The result of analysis on evaluation of lessons comparing the PTI instructors and JICA experts (math and science) 3. The result of pre/ post test of subject base training 	
<p>3. Effective environment for the implementation of the new teaching method is promoted</p>	<ol style="list-style-type: none"> 1. More than 60% of personnel concerned in primary education recognize the new teaching method. 2. More than 50% of personnel concerned in primary education understand and support the new teaching method 	<ol style="list-style-type: none"> 1. Questionnaires for head teachers and teachers 2. Questionnaires for head teachers, teachers, URC instructor and AUEO 	

【Activities】	【Input】	
<p>[For Output 1] 1-1 Draft the textbooks 1-2 Support trying out for the revised textbooks 1-3 Review the revised textbooks 1-4 Provide technical support to the revision process of curriculum and textbooks with NCTB 1-5 Hold the seminars on improvement of curriculum and textbooks 1-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p> <p>[For Output 2] 2-1 Support DPE to formulate and review Teacher Education Development Action Plan 2-2 Support to develop the curriculum and textbooks in math and science for DPED 2-3 Support to revise and implement in-service training program^{iv} 2-4 Conduct pilot activity to strengthen network among teachers in PTI clusters^v 2-5 Conduct follow-up training for all the PTI superintendents and all the PTI instructors (math and science) 2-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p>	<p>< Japanese side ></p> <p>(1) Experts - Team leader - Teacher education and training - Educational administration - Development partners coordination - Teaching & learning method in science - Teaching & learning method in mathematics - Training management and monitoring - Education evaluation - Other necessary fields</p> <p>(2) Overseas Trainings</p> <p>(3) Trainings, seminars and workshops in Bangladesh</p>	<ul style="list-style-type: none"> • New DPED for PTIs is in place as planned • Vacancies of the posts in NAPE and PTIs are properly filled • The delay or cancel of budget allocation, due to the ineffective development of other areas or components of PEDP3 which the project is not involved with, does not happen
<p>[For Output 3] 3-1 Produce TV drama and prepare materials to promote lesson improvement as teacher training material and PR material 3-2 Support to develop the communication strategy of PEDP3</p>	<p>< Bangladeshi side ></p> <p>(1) Counterparts · DPE · NAPE · PTIs</p> <p>(2) Operational cost and personnel expenses at Counterpart organizations</p> <p>(3) Facilities and Equipment at project site</p> <p>(4) Activities for the relative areas of Component 1 of PEDP 3 (Pool fund)</p>	

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- i “Primary school” in this matrix ranges 1 to 5 grades.
 - ii “New teaching method” means to the exploratory / problem-solving lesson guided in “Teaching Package” developed in the previous phase of this project.
 - iii Categories of Grading scale for the analysis of Lesson Plans and Lessons are as following:
 - 1) Achievement of learning outcomes
 - 2) Quality of teaching
 - 3) Quality of students’ learning
 - iv Detail activities of 2-3 are as following:
 - 1) Sub- cluster training (for all the primary schools in every two months)
 - 2) School-based training
 - 3) Subject-wise training
 - 4) Leadership training for head teachers
 - 5) Teacher support network training on lesson study
 - v Detail activities of 2-4 are as following:
 - 1) Conduct introductory training for all the PTI superintendents and all the PTI instructors (math and science)
 - 2) Study Group Activity (SGA) for PTI instructors to discuss common issues and exercise problem solving, Study Workshop (SW) for PTI instructors, URC instructors, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”, Lesson Study

Project Design Matrix (PDM2)

Project title: Strengthening the capacity of teacher trainings at Primary Teachers Training Institutes to improve classroom teaching

Duration: October 2010 - September 2016 (6 years)

Target Site: All over Bangladesh

Target Groups: Ministry of Primary and Mass Education (MOPME), Directorate of Primary Education (DPE), National Academy for Primary Education (NAPE), National Curriculum and Textbook Board (NCTB), Primary Teacher Training Institutes (PTIs), Upazila Resource Centers (URCs), Upazila Education Offices (UEOs)

End beneficiaries: Teachers and Students in primary schoolsⁱ

17 April 2014

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>【Super goal】 The quality of primary education in Bangladesh is enhanced</p>	<ol style="list-style-type: none"> KPIⁱⁱ1: Level of achievement in mathematics in Grade 3 KPI2: Level of achievement mathematics in Grade 5 KPI3: Terminal examination pass rate in Grade 5 KPI8: Net enrollment rate KPI12: Completion rate of primary education 	<p>Annual Sector Performance Report (ASPR)</p>	
<p>【Overall goal】 The new teaching methodⁱⁱⁱ is disseminated in mathematics and science in primary education</p>	<ol style="list-style-type: none"> Lesson study is conducted at least once a year at more than xx% of URC model schools. More than xx% of primary school teachers use contents or concepts of “Teaching Package” in math and science 	<ol style="list-style-type: none"> School record Interview with head teachers and teachers 	<ul style="list-style-type: none"> Teacher-pupils ratio has not been drastically worsen
<p>【Project purpose】 The new teaching method is implemented in math and science in primary education</p>	<ol style="list-style-type: none"> Grading scale for Lesson observation^{iv}(Rubric: 1-5 point scale each) shows higher than 2.5 points in category one, 2.5 points in category two, 2.0 points in category three in math and science in primary schools. More than 50% of primary school teachers use contents or concepts of “Teaching Package” Lesson study is conducted at least once a year at more than 50% of URC model schools. 	<ol style="list-style-type: none"> Result of analysis on lesson observation Interview or questionnaire survey with head teachers and teachers Record on implementing Lesson Study at each primary school 	<ul style="list-style-type: none"> PEDP3 is implemented as scheduled New DPEd for PTIs continues after introduced Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
<p>【Outputs】 1. The contents of the textbooks in math and science in primary education are improved.</p>	<ol style="list-style-type: none"> Essence of the new teaching method is reflected in the revised textbooks in math and science in primary education. Essence of the new teaching method is reflected in the revised teacher's guides in math and science in primary education. 	<ol style="list-style-type: none"> Revised textbooks Revised teacher's guides 	<ul style="list-style-type: none"> Primary curriculum is revised as planned Subject base training and sub-cluster training continue
<p>2. The systems and contents of teacher training are improved.</p>	<ol style="list-style-type: none"> The curriculum, textbooks and manual for DPEd which the new teaching method are reflected are disseminated. More than 50% of PTI instructors (math and science) can implement and evaluate in service teacher training appropriately. (PTI instructors who can get more than 70% points of post test score 	<ol style="list-style-type: none"> 1-1. Curriculum, textbooks and manual of math and science for DPEd 1-2. The result of analysis on 	

	<p>and lesson evaluation)</p> <p>3. More than <u>50%</u> of teachers can understand <u>50%</u> of contents of in service teacher training. *</p>	<p>evaluation of lessons comparing new DPED graduates and C-in Ed graduates</p> <p>2-1.The result of pre/post test of PTI instructors (math and science)</p> <p>2-2.The result of analysis on evaluation of lessons comparing the PTI instructors and JICA experts (math and science)</p> <p>3. The result of pre/ post test of subject base training</p>	
<p>3. Effective environment for the implementation of the new teaching method is promoted</p>	<p>1. More than 60% of personnel concerned in primary education recognize the new teaching method.</p> <p>2. More than 50% of personnel concerned in primary education understand and support the new teaching method</p>	<p>1. Questionnaires for head teachers and teachers</p> <p>2. Questionnaires for head teachers, teachers, URC instructor and AUEO</p>	

<p style="text-align: center;">【Activities】</p> <p>[For Output 1] 1-1 Draft the textbooks 1-2 Support trying out for the revised textbooks 1-3 Review the revised textbooks 1-4 Provide technical support to the revision process of curriculum and textbooks with NCTB 1-5 Hold the seminars on improvement of curriculum and textbooks 1-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p> <p>[For Output 2] 2-1 Support DPE to formulate and review Teacher Education Development Action Plan 2-2 Support to develop the curriculum and textbooks in math and science for DPED 2-3 Support to revise and implement in-service training program^v 2-4 Conduct pilot activity to strengthen network among teachers in PTI clusters^{vi} 2-5 Conduct follow-up training for all the PTI superintendents and all the PTI instructors (math and science) 2-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p> <p>[For Output 3] 3-1 Produce TV drama and prepare materials to promote lesson improvement as teacher training material and PR material 3-2 Support to develop the communication strategy of PEDP3 3-3 Conduct PR activities on PEDP3 through various media for personnel concerned in primary education 3-4 Identify the problems for implementing lesson improvement and propose solutions 3-5 Support for Lesson Study implementation at the school level</p>	<p style="text-align: center;">【Input】 < Japanese side ></p> <p>(1) Experts - Team leader - Teacher education and training - Educational administration - Development partners coordination - Teaching & learning method in science - Teaching & learning method in mathematics - Training management and monitoring - Education evaluation - Other necessary fields</p> <p>(2) Overseas Trainings</p> <p>(3) Trainings, seminars and workshops in Bangladesh</p> <p style="text-align: center;">< Bangladeshi side ></p> <p>(1) Counterparts · DPE · NAPE · PTIs</p> <p>(2) Operational cost and personnel expenses at Counterpart organizations</p> <p>(3) Facilities and Equipment at project site</p> <p>(4) Activities for the relative areas of Component 1 of PEDP 3 (Pool fund)</p>	<p>• New DPED for PTIs is in place as planned</p> <p>• Vacancies of the posts in NAPE and PTIs are properly filled</p> <p>• The delay or cancel of budget allocation, due to the ineffective development of other areas or components of PEDP3 which the project is not involved with, does not happen</p>
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- ⁱ “Primary school” in this matrix ranges 1 to 5 grades.
 - ⁱⁱ KPI stands for “Key Performance Index”.
 - ⁱⁱⁱ “New teaching method” means to the exploratory / problem-solving lesson guided in “Teaching Package” developed in the previous phase of this project.
 - ^{iv} Categories of Grading scale for the analysis of Lesson Plans and Lessons are as following:
 - 1) Achievement of learning outcomes
 - 2) Quality of teaching
 - 3) Quality of students’ learning
 - ^v Detail activities of 2-3 are as following:
 - 1) Sub- cluster training (for all the primary schools in every two months)
 - 2) School-based training
 - 3) Subject-wise training
 - 4) Leadership training for head teachers
 - 5) Teacher support network training on lesson study
 - ^{vi} Detail activities of 2-4 are as following:
 - 1) Conduct introductory training for all the PTI superintendents and all the PTI instructors (math and science)
 - 2) Study Group Activity (SGA) for PTI instructors to discuss common issues and exercise problem solving, Study Workshop (SW) for PTI instructors, URC instructors, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”, Lesson Study

Project Design Matrix (PDM3)

Project title: Strengthening the capacity of teacher trainings at Primary Teachers Training Institutes to improve classroom teaching

Duration: October 2010 - December 2017 (7 years and 3 month)

Target Site: All over Bangladesh

Target Groups: Ministry of Primary and Mass Education (MOPME), Directorate of Primary Education (DPE), National Academy for Primary Education (NAPE), National Curriculum and Textbook Board (NCTB), Primary Teacher Training Institutes (PTIs), Upazila Resource Centers (URCs), Upazila Education Offices (UEOs)

End beneficiaries: Teachers and Students in primary schoolsⁱ

9 March 2016

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>【Super goal】 The quality of primary education in Bangladesh is enhanced</p>	<ol style="list-style-type: none"> KPIⁱⁱ1: Level of achievement in mathematics in Grade 3 KPI2: Level of achievement mathematics in Grade 5 KPI3: Terminal examination pass rate in Grade 5 KPI8: Net enrollment rate KPI12: Completion rate of primary education 	<p>Annual Sector Performance Report (ASPR)</p>	
<p>【Overall goal】 The new teaching methodⁱⁱⁱ is disseminated in mathematics and science in primary education</p>	<ol style="list-style-type: none"> Lesson study is conducted at least once a year at more than xx% of URC model schools. More than xx% of primary school teachers use contents or concepts of “Teaching Package” in math and science 	<ol style="list-style-type: none"> School record Interview with head teachers and teachers 	<ul style="list-style-type: none"> Teacher-pupils ratio has not been drastically worsen
<p>【Project purpose】 The new teaching method is implemented in math and science in primary education</p>	<ol style="list-style-type: none"> Grading scale for Lesson observation^{iv}(Rubric: 1-5 point scale each) shows higher than 2.5 points in category one, 2.5 points in category two, 2.0 points in category three in math and science in primary schools. More than 50% of primary school teachers use contents or concepts of “Teaching Package” Lesson study is conducted at least once a year at more than 50% of URC model schools. 	<ol style="list-style-type: none"> Result of analysis on lesson observation Interview or questionnaire survey with head teachers and teachers Record on implementing Lesson Study at each primary school 	<ul style="list-style-type: none"> PEDP3 is implemented as scheduled New DPEd for PTIs continues after introduced Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
<p>【Outputs】 1. The contents of the textbooks in math and science in primary education are improved.</p>	<ol style="list-style-type: none"> Essence of the new teaching method is reflected in the revised textbooks in math and science in primary education. Essence of the new teaching method is reflected in the revised teacher's guides in math and science in primary education. 	<ol style="list-style-type: none"> Revised textbooks Revised teacher's guides 	<ul style="list-style-type: none"> Primary curriculum is revised as planned Subject base training and sub-cluster training continue
<p>2. The systems and contents of teacher training are improved.</p>	<ol style="list-style-type: none"> The curriculum, textbooks and manual for DPEd which the new teaching method are reflected are disseminated. More than 50% of PTI instructors (math and science) can implement and evaluate in service teacher training appropriately. (PTI instructors who can get more than 70% points of post test score 	<ol style="list-style-type: none"> 1-1. Curriculum, textbooks and manual of math and science for DPEd 1-2. The result of analysis on 	

	<p>and lesson evaluation)</p> <p>3. More than <u>50%</u> of teachers can understand <u>50%</u> of contents of in service teacher training. *</p>	<p>evaluation of lessons comparing new DPED graduates and C-in Ed graduates</p> <p>2-1.The result of pre/post test of PTI instructors (math and science)</p> <p>2-2.The result of analysis on evaluation of lessons comparing the PTI instructors and JICA experts (math and science)</p> <p>3. The result of pre/ post test of subject base training</p>	
<p>3. Effective environment for the implementation of the new teaching method is promoted</p>	<p>1. More than 60% of personnel concerned in primary education recognize the new teaching method.</p> <p>2. More than 50% of personnel concerned in primary education understand and support the new teaching method</p>	<p>1. Questionnaires for head teachers and teachers</p> <p>2. Questionnaires for head teachers, teachers, URC instructor and AUEO</p>	

<p style="text-align: center;">【Activities】</p> <p>[For Output 1] 1-1 Draft the textbooks 1-2 Support trying out for the revised textbooks 1-3 Review the revised textbooks 1-4 Provide technical support to the revision process of curriculum and textbooks with NCTB 1-5 Hold the seminars on improvement of curriculum and textbooks 1-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p> <p>[For Output 2] 2-1 Support DPE to formulate and review Teacher Education Development Action Plan 2-2 Support to develop the curriculum and textbooks in math and science for DPED 2-3 Support to revise and implement in-service training program^v 2-4 Conduct pilot activity to strengthen network among teachers in PTI clusters^{vi} 2-5 Conduct follow-up training for all the PTI superintendents and all the PTI instructors (math and science) 2-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p>	<p style="text-align: center;">【Input】 < Japanese side ></p> <p>(1) Experts - Team leader - Teacher education and training - Educational administration - Development partners coordination - Teaching & learning method in science - Teaching & learning method in mathematics - Training management and monitoring - Education evaluation - Other necessary fields</p> <p>(2) Overseas Trainings</p> <p>(3) Trainings, seminars and workshops in Bangladesh</p> <p style="text-align: center;">< Bangladeshi side ></p> <p>(1) Counterparts · DPE · NAPE · PTIs</p>	<ul style="list-style-type: none"> • New DPED for PTIs is in place as planned • Vacancies of the posts in NAPE and PTIs are properly filled • The delay or cancel of budget allocation, due to the ineffective development of other areas or components of PEDP3 which the project is not involved with, does not happen
<p>[For Output 3] 3-1 Produce TV drama and prepare materials to promote lesson improvement as teacher training material and PR material 3-2 Support to develop the communication strategy of PEDP3 3-3 Conduct PR activities on PEDP3 through various media for personnel concerned in primary education 3-4 Identify the problems for implementing lesson improvement and propose solutions 3-5 Support for Lesson Study implementation at the school level</p>	<p>(2) Operational cost and personnel expenses at Counterpart organizations</p> <p>(3) Facilities and Equipment at project site</p> <p>(4) Activities for the relative areas of Component 1 of PEDP 3 (Pool fund)</p>	

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- ⁱ “Primary school” in this matrix ranges 1 to 5 grades.
 - ⁱⁱ KPI stands for “Key Performance Indicator”.
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 - ^{vi} Detail activities of 2-4 are as following:
 - 1) Conduct introductory training for all the PTI superintendents and all the PTI instructors (math and science)
 - 2) Study Group Activity (SGA) for PTI instructors to discuss common issues and exercise problem solving, Study Workshop (SW) for PTI instructors, URC instructors, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”, Lesson Study

Project Design Matrix (PDM4)

Project title: Strengthening the capacity of teacher trainings at Primary Teachers Training Institutes to improve classroom teaching

Duration: October 2010 - December 2017 (7 years and 3 month)

Target Site: All over Bangladesh

Target Groups: Ministry of Primary and Mass Education (MOPME), Directorate of Primary Education (DPE), National Academy for Primary Education (NAPE), National Curriculum and Textbook Board (NCTB), Primary Teacher Training Institutes (PTIs), Upazila Resource Centers (URCs), Upazila Education Offices (UEOs)

End beneficiaries: Teachers and Students in primary schoolsⁱ

16 April 2017

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>【Super goal】 The quality of primary education in Bangladesh is enhanced</p>	<ol style="list-style-type: none"> KPIⁱⁱ1: Level of achievement in mathematics in Grade 3 KPI2: Level of achievement mathematics in Grade 5 KPI3: Terminal examination pass rate in Grade 5 KPI8: Net enrollment rate KPI12: Completion rate of primary education 	<p>Annual Sector Performance Report (ASPR)</p>	
<p>【Overall goal】 The new teaching methodⁱⁱⁱ is disseminated in mathematics and science in primary education</p>	<ol style="list-style-type: none"> Lesson study is conducted at least once a year at more than 65% of URC model schools. More than 65% of primary school teachers use contents or concepts of “Teaching Package” in math and science 	<ol style="list-style-type: none"> School record Interview with head teachers and teachers 	<ul style="list-style-type: none"> Teacher-pupils ratio has not been drastically worsen
<p>【Project purpose】 The new teaching method is implemented in math and science in primary education</p>	<ol style="list-style-type: none"> Grading scale for Lesson observation^{iv}(Rubric: 1-5 point scale each) shows higher than 2.5 points in category one, 2.5 points in category two, 2.0 points in category three in math and science in primary schools. More than 50% of primary school teachers use contents or concepts of “Teaching Package” Lesson study is conducted at least once a year at more than 50% of URC model schools. 	<ol style="list-style-type: none"> Result of analysis on lesson observation Interview or questionnaire survey with head teachers and teachers Record on implementing Lesson Study at each primary school 	<ul style="list-style-type: none"> PEDP3 is implemented as scheduled New DPEd for PTIs continues after introduced Textbooks and teachers' guides based on the revised primary curriculum are produced and distributed as planned
<p>【Outputs】 1. The contents of the textbooks in math and science in primary education are improved.</p>	<ol style="list-style-type: none"> Essence of the new teaching method is reflected in the revised textbooks in math and science in primary education. Essence of the new teaching method is reflected in the revised teacher's guides in math and science in primary education. 	<ol style="list-style-type: none"> Revised textbooks Revised teacher's guides 	<ul style="list-style-type: none"> Primary curriculum is revised as planned Subject base training and sub-cluster training continue
<p>2. The systems and contents of teacher training are improved.</p>	<ol style="list-style-type: none"> The curriculum, textbooks and manual for DPEd which the new teaching method are reflected are disseminated. More than 50% of PTI instructors (math and science) can implement and evaluate in service teacher training appropriately. (PTI instructors who can get more than 70% points of post test score 	<ol style="list-style-type: none"> 1-1. Curriculum, textbooks and manual of math and science for DPEd 1-2. The result of analysis on 	

	<p>and lesson evaluation)</p> <p>3. More than <u>50%</u> of teachers can understand <u>50%</u> of contents of in service teacher training. *</p>	<p>evaluation of lessons comparing new DPED graduates and C-in Ed graduates</p> <p>2-1.The result of pre/post test of PTI instructors (math and science)</p> <p>2-2.The result of analysis on evaluation of lessons comparing the PTI instructors and JICA experts (math and science)</p> <p>3. The result of pre/ post test of subject base training</p>	
<p>3. Effective environment for the implementation of the new teaching method is promoted</p>	<p>1. More than 60% of personnel concerned in primary education recognize the new teaching method.</p> <p>2. More than 50% of personnel concerned in primary education understand and support the new teaching method</p>	<p>1. Questionnaires for head teachers and teachers</p> <p>2. Questionnaires for head teachers, teachers, URC instructor and AUEO</p>	

<p style="text-align: center;">【Activities】</p> <p>[For Output 1] 1-1 Draft the textbooks 1-2 Support trying out for the revised textbooks 1-3 Review the revised textbooks 1-4 Provide technical support to the revision process of curriculum and textbooks with NCTB 1-5 Hold the seminars on improvement of curriculum and textbooks 1-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p> <p>[For Output 2] 2-1 Support DPE to formulate and review Teacher Education Development Action Plan 2-2 Support to develop the curriculum and textbooks in math and science for DPED 2-3 Support to revise and implement in-service training program^v 2-4 Conduct pilot activity to strengthen network among teachers in PTI clusters^{vi} 2-5 Conduct follow-up training for all the PTI superintendents and all the PTI instructors (math and science) 2-6 Report to PEDP3, share the information, and coordinate with relevant institutions on the revision of textbooks</p>	<p style="text-align: center;">【Input】 < Japanese side ></p> <p>(1) Experts - Team leader - Teacher education and training - Educational administration - Development partners coordination - Teaching & learning method in science - Teaching & learning method in mathematics - Training management and monitoring - Education evaluation - Other necessary fields</p> <p>(2) Overseas Trainings</p> <p>(3) Trainings, seminars and workshops in Bangladesh</p> <p style="text-align: center;">< Bangladeshi side ></p> <p>(1) Counterparts · DPE · NAPE · PTIs</p>	<ul style="list-style-type: none"> • New DPED for PTIs is in place as planned • Vacancies of the posts in NAPE and PTIs are properly filled • The delay or cancel of budget allocation, due to the ineffective development of other areas or components of PEDP3 which the project is not involved with, does not happen
<p>[For Output 3] 3-1 Produce TV drama and prepare materials to promote lesson improvement as teacher training material and PR material 3-2 Support to develop the communication strategy of PEDP3 3-3 Conduct PR activities on PEDP3 through various media for personnel concerned in primary education 3-4 Identify the problems for implementing lesson improvement and propose solutions 3-5 Support for Lesson Study implementation at the school level</p>	<p>(2) Operational cost and personnel expenses at Counterpart organizations</p> <p>(3) Facilities and Equipment at project site</p> <p>(4) Activities for the relative areas of Component 1 of PEDP 3 (Pool fund)</p>	

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- ⁱ “Primary school” in this matrix ranges 1 to 5 grades.
 - ⁱⁱ KPI stands for “Key Performance Indicator”.
 - ⁱⁱⁱ “New teaching method” means to the exploratory / problem-solving lesson guided in “Teaching Package” developed in the previous phase of this project.
 - ^{iv} Categories of Grading scale for the analysis of Lesson Plans and Lessons are as following:
 - 1) Achievement of learning outcomes
 - 2) Quality of teaching
 - 3) Quality of students’ learning
 - ^v Detail activities of 2-3 are as following:
 - 1) Sub- cluster training (for all the primary schools in every two months)
 - 2) School-based training
 - 3) Subject-wise training
 - 4) Leadership training for head teachers
 - 5) Teacher support network training on lesson study
 - ^{vi} Detail activities of 2-4 are as following:
 - 1) Conduct introductory training for all the PTI superintendents and all the PTI instructors (math and science)
 - 2) Study Group Activity (SGA) for PTI instructors to discuss common issues and exercise problem solving, Study Workshop (SW) for PTI instructors, URC instructors, AUEOs and teachers from Primary Schools to introduce “lesson study” approach and effective use of “Teaching Packages”, Lesson Study

添付資料 3
Plan of Operation (最終版)

添付資料 3-1 : 1-2 年次

作業工程表	2010年度												2011年度									2012年度								
	2010年			2011年									2012年																	
	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9							
第1年次作業工程																														
1-1 業務実施計画の検討	計画	■																												
	実施	■																												
1-2 インセプションレポートの説明・協議	計画	■																												
	実施	■																												
1-3 教師教育・教員研修の分野への技術的助言	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-4 初等教育ディプロマ課程への教育パッケージ (TP) 統合	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-5 小学校カリキュラム・教科書の改訂支援	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-6 PEDP3との調整と提言	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-7 PTIクラスターの特定	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-8 地区代表PTIの特定	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-9 PTIクラスター活動導入研修 (全国PTI校長対象) を実施	計画		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-10 PTIクラスター活動導入研修 (全国PTI理数科教育対象) を実施	計画			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-11 対象PTIクラスター (第1フェーズ) にてSGA実施	計画																													
	実施																													
1-12 対象PTIクラスター (第1フェーズ) にてSWの実施	計画																													
	実施																													
1-13 プレアクティビティ調査の実施	計画		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
	実施		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■							
1-14 対象小学校での授業改善活動を支援する	計画																													
	実施																													
第2年次作業工程																														
2-1 本邦研修の実施 (第2年次)	計画																													
	実施																													
2-2 初等教育ディプロマ課程への教育パッケージ (TP) 統合	計画																													
	実施																													
2-3 小学校カリキュラム・教科書の改訂支援	計画																													
	実施																													
2-4 PEDP3との調整と提言	計画																													
	実施																													
2-5 PEDP3広報連絡開発	計画																													
	実施																													
2-6 対象PTIクラスター (第1グループ) にてSW継続実施	計画																													
	実施																													
2-7 対象PTIクラスター (第2グループ) にてSW実施	計画																													
	実施																													
2-8 PTIモニタリングの実施	計画																													
	実施																													
2-9 PTI校長フォローアップ研修の実施	計画																													
	実施																													
2-10 PTI理数科教育フォローアップ研修の実施	計画																													
	実施																													
2-11 対象PTIクラスター (第1グループ) にてSGA継続実施	計画																													
	実施																													
2-12 対象PTIクラスター (第1グループ) にてSW継続実施	計画																													
	実施																													
2-13 対象PTIクラスター (第2グループ) にてSGA継続実施	計画																													
	実施																													
2-14 対象PTIクラスター (第2グループ) にてSW継続実施	計画																													
	実施																													
2-15 対象PTIクラスター (第3グループ) にてSGA実施	計画																													
	実施																													
2-16 対象PTIクラスター (第3グループ) にてSW実施	計画																													
	実施																													
2-17 対象PTIクラスター (第4グループ) にてSGA実施	計画																													
	実施																													
2-18 対象PTIクラスター (第4グループ) にてSW実施	計画																													
	実施																													
2-19 対象小学校での授業改善活動を支援する	計画																													
	実施																													
2-20 インバクト調査の実施	計画																													
	実施																													
報告書																														

△/○/□/◇/■ → 0/1/2/3

プレアクティビティ調査報告書△
△/○/□/◇/■ → 事業進捗報告書 (第一号)
■ → 事業完了報告書

△/○/□/◇/■ → 事業進捗報告書 (第二号)

インバクト調査報告書 (第一号) △
■ → 事業完了報告書

添付資料 3-2 : 3-4 年次

		2012年度							2013年度							2014年度													
		2012年			2013年				2013年							2014年													
		10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8					
第3年次作業工程																													
3-1	計画																												
	実施																												
3-2	計画	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-3	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-4	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-5	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-6	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-7	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-8	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-9	計画																												
	実施																												
3-10	計画																												
	実施																												
3-15	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-16	計画																												
	実施	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
3-17	計画																												
	実施																												
第4年次作業工程																													
4-1	計画																												
	実施																												
4-2	計画																												
	実施																												
4-3	計画																												
	実施																												
4-4	計画																												
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4-5	計画																												
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4-10	計画																												
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	実施																												
4-19	計画																												
	実施																												
報告書		△7/27以外事業進捗報告書(第三号)							△教科書・カリキュラム改訂進捗書							△7/27以外事業進捗報告書(第四号)							△インバウト調査報告書(第二号)△						
		3年次実施完了報告書△							3年次実施完了報告書△							3年次実施完了報告書△							3年次実施完了報告書△						

添付資料 3-3 : 5-6 年次

実施年度	実施内容	実施主体	2014年度												2015年度												2016年度												2017年度											
			2014年				2015年				第5年次				第6年次				2016年				2017年				第6年次				第7年次																			
			9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12								
5-1	小学校教科書(算数・理科)の単元作成(4-5年分)	計画	■												■												■												■											
		実施	■												■												■												■											
5-2	改訂教科書等の試行実施支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-3	改訂教科書レビュー	計画	■												■												■												■											
		実施	■												■												■												■											
5-4	ICTへの技術的助産(教科書・カリキュラム改訂に7次に関連して)	計画	■												■												■												■											
		実施	■												■												■												■											
5-5	教科書・カリキュラムの3年一貫性	計画	■												■												■												■											
		実施	■												■												■												■											
5-6	TEQアテンションプランの策定支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-7	現職教員研修の改訂・実施支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-8	全国PTラスタキにて教員間ネットワークの強化	計画	■												■												■												■											
		実施	■												■												■												■											
5-9	PT校長フォローアップ研修の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-10	PT理数科教育フォローアップ研修の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-11	教員研修モニタリング制度の策定	計画	■												■												■												■											
		実施	■												■												■												■											
5-12	カリキュラム普及研修の実施支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-13	教員研修用教材の開発	計画	■												■												■												■											
		実施	■												■												■												■											
5-14	広聴フォームの開発	計画	■												■												■												■											
		実施	■												■												■												■											
5-15	メディアを活用した情報発信	計画	■												■												■												■											
		実施	■												■												■												■											
5-16	対象小学校での授業改善活動支援とモニタリング	計画	■												■												■												■											
		実施	■												■												■												■											
5-17	PEOPとの調整・連携	計画	■												■												■												■											
		実施	■												■												■												■											
5-18	イベント開催の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-19	ヒストリアクティビティ(調査)の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-1	改訂教科書等の試行実施支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-2	改訂教科書レビュー	計画	■												■												■												■											
		実施	■												■												■												■											
5-3	ICTへの技術的助産(教科書・カリキュラム改訂に7次に関連して)	計画	■												■												■												■											
		実施	■												■												■												■											
5-4	教科書・カリキュラムの3年一貫性	計画	■												■												■												■											
		実施	■												■												■												■											
5-5	TEQアテンションプランの策定支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-6	現職教員研修の改訂・実施支援	計画	■												■												■												■											
		実施	■												■												■												■											
5-7	全国PTラスタキにて教員間ネットワークの強化	計画	■												■												■												■											
		実施	■												■												■												■											
5-8	PT校長フォローアップ研修の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-9	PT理数科教育フォローアップ研修の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-10	メディアを活用した情報発信	計画	■												■												■												■											
		実施	■												■												■												■											
5-11	対象小学校での授業改善活動と支援する	計画	■												■												■												■											
		実施	■												■												■												■											
5-12	PEOPとの調整・連携	計画	■												■												■												■											
		実施	■												■												■												■											
5-13	改善策の調査に基づいたイベント活動の実施	計画	■												■												■												■											
		実施	■												■												■												■											
5-14	ヒストリアクティビティ(調査)の取りまとめとイベントの企画決定の実施	計画	■												■												■												■											
		実施	■												■												■												■											

■ 計画 ■ 実施
 A: 全国PTラスタキにて教員間ネットワークの強化
 B: 現職教員研修の改訂・実施支援
 C: 教科書・カリキュラムの3年一貫性
 D: TEQアテンションプランの策定支援
 E: 現職教員研修の改訂・実施支援
 F: 全国PTラスタキにて教員間ネットワークの強化
 G: PT校長フォローアップ研修の実施
 H: PT理数科教育フォローアップ研修の実施
 I: メディアを活用した情報発信
 J: 対象小学校での授業改善活動と支援する
 K: PEOPとの調整・連携
 L: 改善策の調査に基づいたイベント活動の実施
 M: ヒストリアクティビティ(調査)の取りまとめとイベントの企画決定の実施

添付資料 4
Lesson Study 経験共有
ワークショップ関連資料
(議事次第・議事録・発表資料)

Directorate of Primary Education (DPE)
Implementation of Lesson Study Technique at School Level
25 October, 2017

Time	Title of the Session	Resource Person
08:45-09:00	Registration	JSP
09:00-09:40	Opening Session	Opening by DG, DPE, JICA Representative
09:40-10:10	Overview of JSP activities and Result of Impact Survey	JSP
10:10-11:00	Framework of Implementation of Lesson Study Promotion Activities	DPE NAPE JSP
11:00-11:30	Tea Break	
11:30-13:00	Experience Sharing of School teachers	Assistant Teacher Head Teacher
13:00-14:00	Lunch Break	
14:00-15:00	Experience Sharing of Field officers	AUEO URC Instructor
15:00-15:30	Summary of impact of lesson study	NAPE
15:30-16:00	Open discussion	DPE/ JPS/IER
16:00-16:10	Closing Session	DPE
16:10-16:40	Tea Break	

Workshop on Implementation of Lesson Study Technique in School Level

Impact of CPD Activity ~ Results of Impact Survey ~

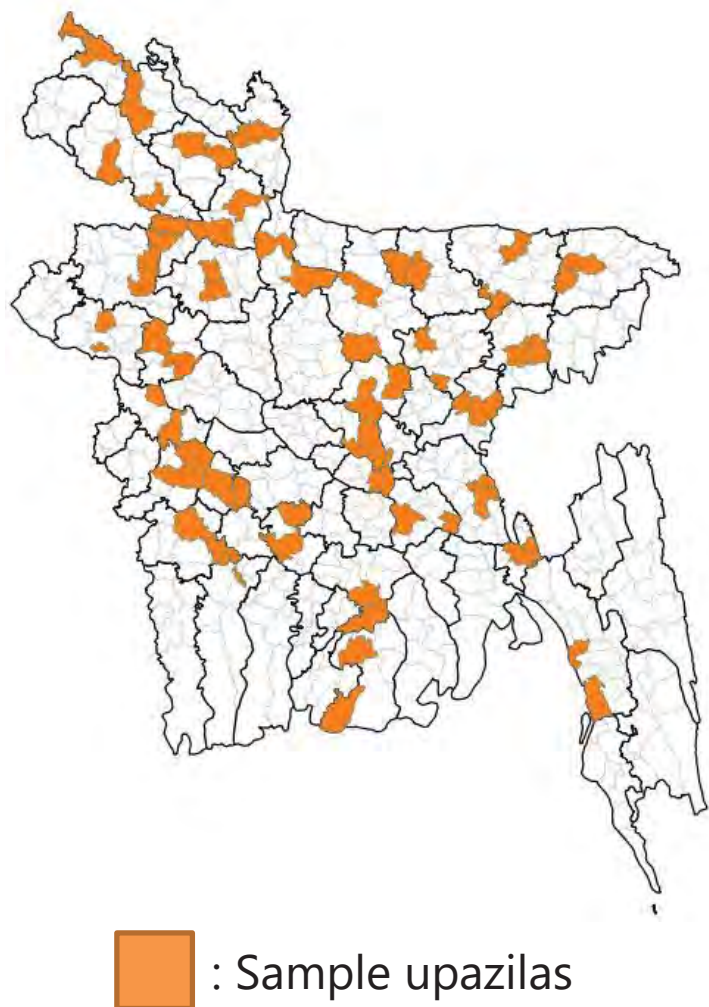


Takashi Soma
Team Leader
JICA Support Program 2



DPE Conference Room
25 October 2017

Summary of Survey

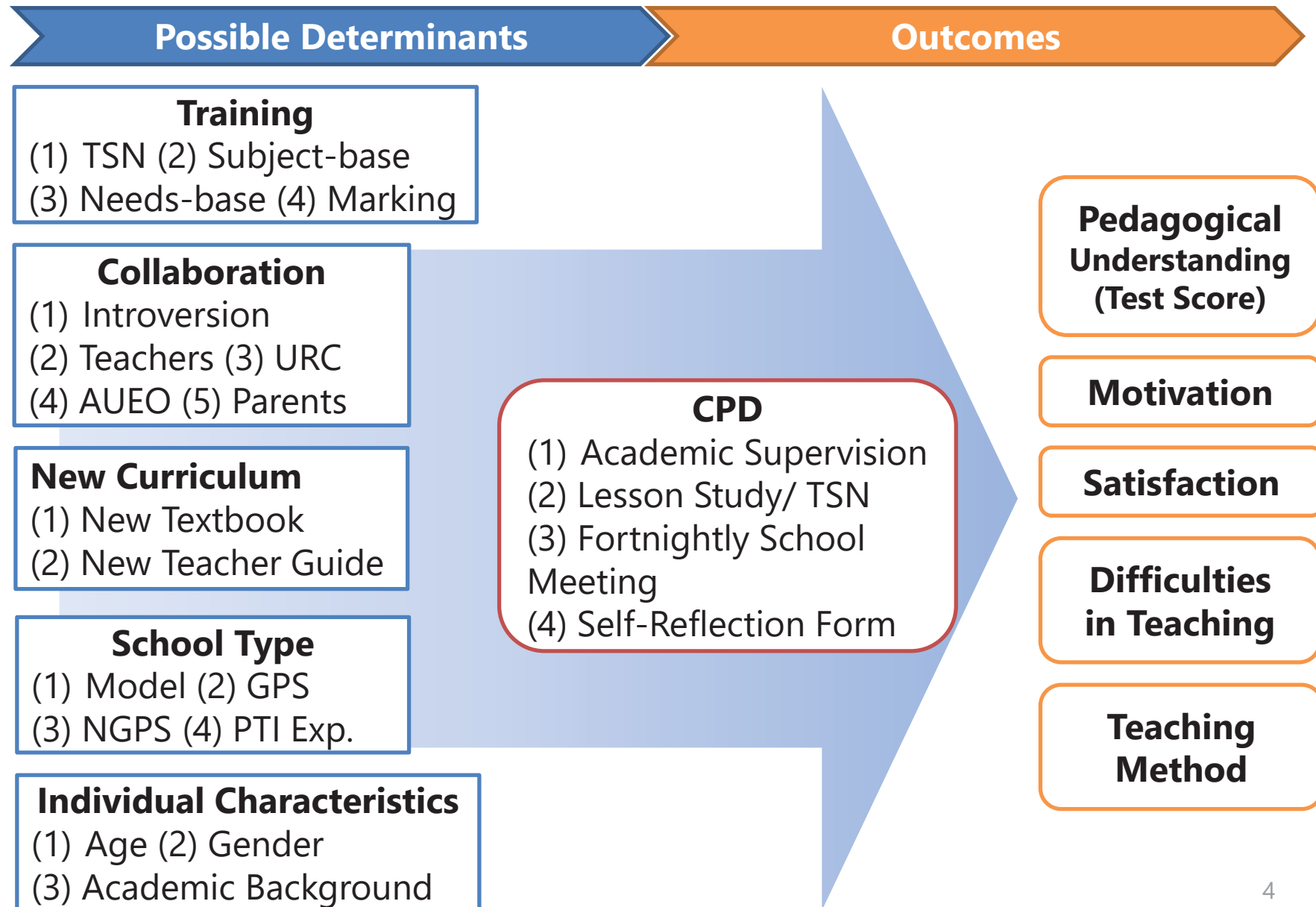


Period	May, 2017
Main Target	<ul style="list-style-type: none"> • HT & AT of Primary Schools • Students (4th Grade)
Sampling Method & Sample Size	<p>Multi-stage Sampling Method</p> <p>(1) 35 districts (random)</p> <p>(2) 70 upazilas</p> <p>* 1 sadar & 1 non-sadar/district</p> <p>(3) 280 primary schools</p> <p>* 4 schools/ Upazila</p> <p>(4) 1486 teachers (HT & AT)</p> <p>(5) 9476 students (4th grade)</p>
Method	<ul style="list-style-type: none"> • Teachers: Computer-assisted personal interviewing (CAPI) • Students: Paper-and-Pencil Interviewing (PAPI)

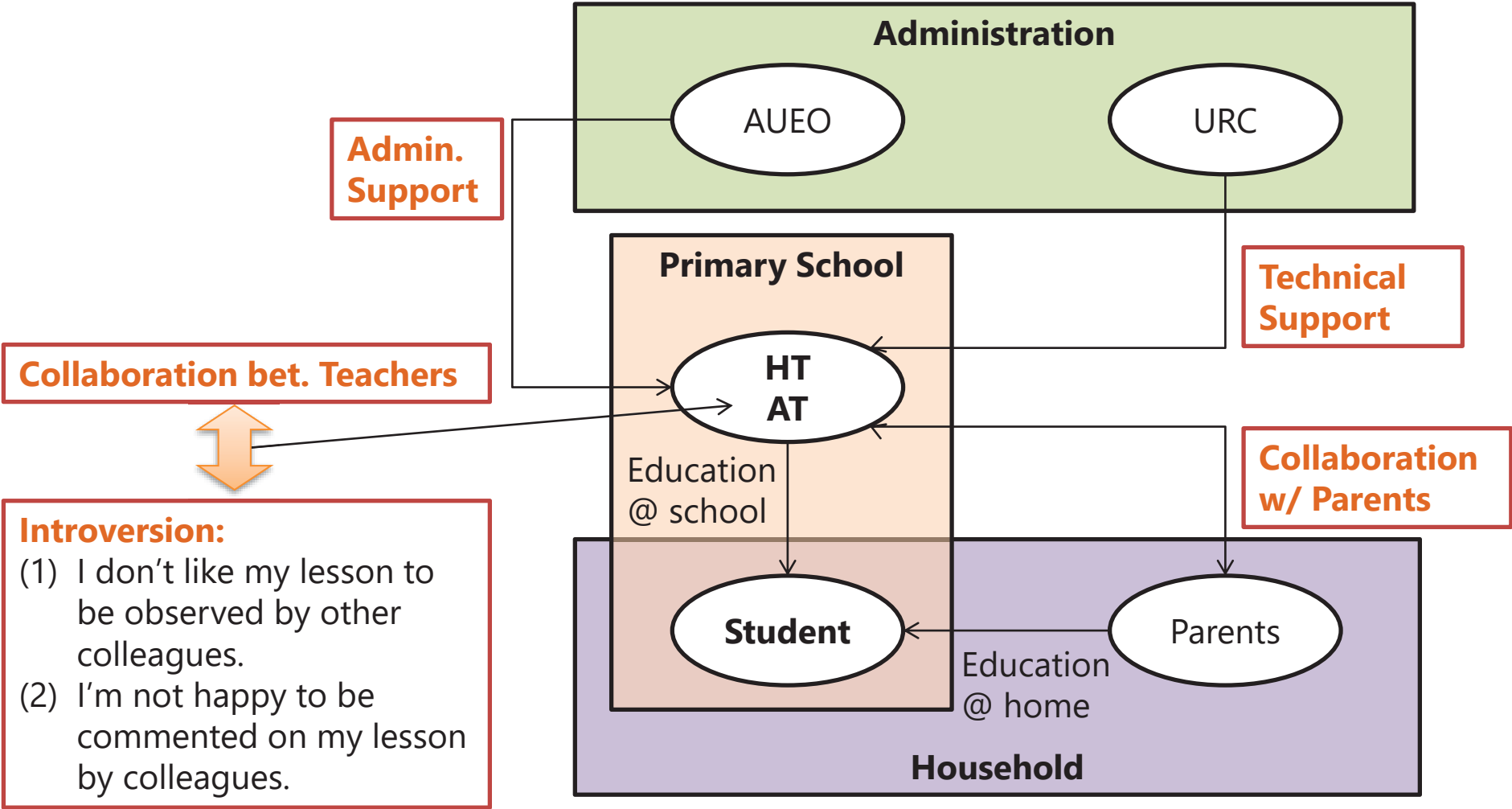
Research Questions

- **Teacher-level analysis**
 - What are the determinants of...
 - CPD activities?
 - Pedagogical scores for Science and Math?
 - Motivation, satisfaction, and difficulty in teaching?
 - Adoption of various teaching methods?
- **Student-level analysis**
 - What are the determinants of...
 - Test scores for Science and Math?
 - Preference for Science and Math?
 - Fear of mistakes in Science and Math classes?

Analysis of Teacher's Outcomes

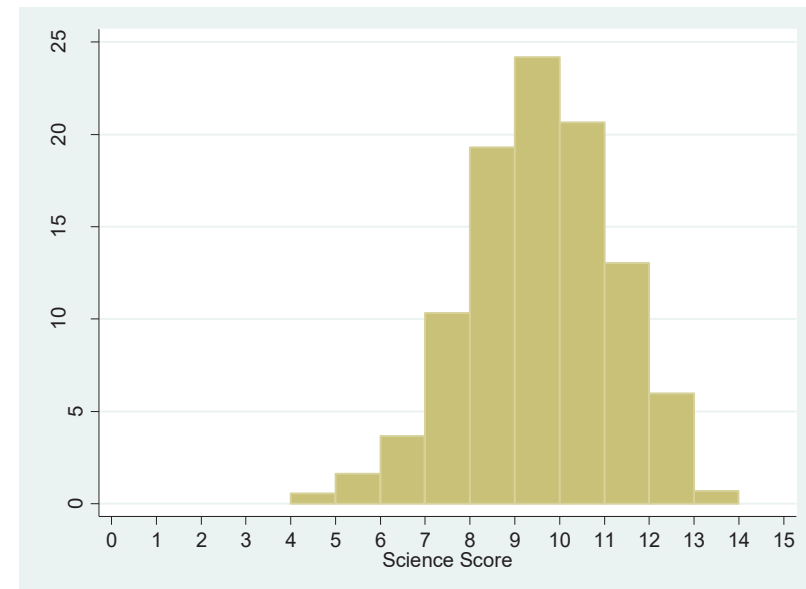
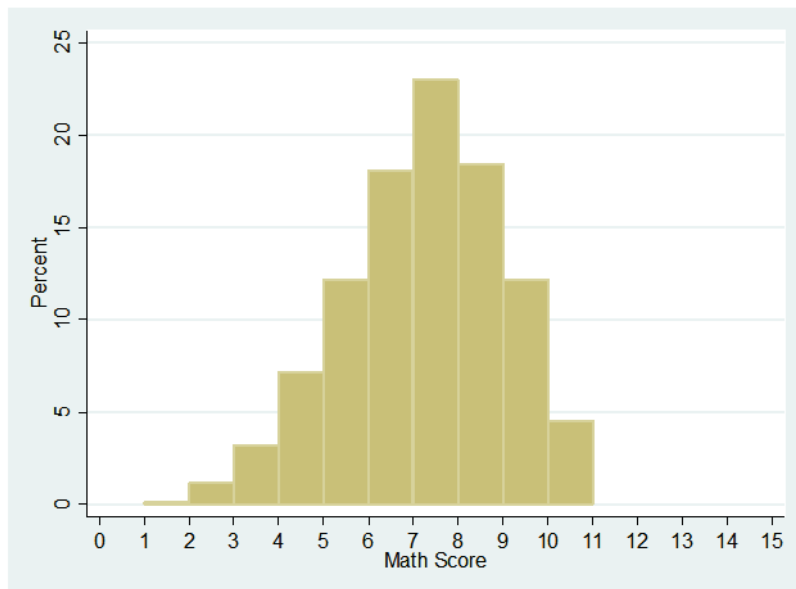


Framework of Analysis: Collaboration



Outcome Variables for Teachers

Outcome Variables	Unit	Average
CPD		
Academic Supervision	Yes/No	74%
SelfReflection Sheet	Yes/No	40%
Fortnightly Meeting	Yes/No	66%
Lesson Study	Yes/No	60%
Teacher's Test Score		
Math Score (max: 15 points)	Score	6.7
Science Score (max: 15 points)	Score	9.1
Total Score (max: 30 points)	Score	15.9



Outcome Variables for Teachers

Outcome Variables	Average
Motivation	
Want to be a good teacher.	4.5
Want to improve my teaching skills.	4.6
Want to improve my subject knowledge.	4.6
Want to improve how to use teaching materials.	4.6
Satisfaction	
Proud of teaching profession.	4.6
Happy when students understand my lesson.	4.7
Want to continue teaching profession.	4.5
Enjoy working with my colleagues.	4.5
Difficulty in Teaching	
Feel difficulties to manage class during lesson.	2.4
Not confident to teach some science topics.	2.7
Not confident to teach some math topics.	2.6
Confused with different teaching methods.	3.0
Teaching Method	
Prepare teaching aids when it is necessary.	4.3
Use teaching materials in addition to textbooks.	4.3
Take students out of class room during lesson.	4.1
Give student homework which has scope for thinking.	4.2

“Average” shows the average of 5-point Likert scale for each statement:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Main Results of CPD

- **TSN training** contributes to CPD significantly.
 - TSN training increases implementation rate of **“Lesson Study” by 18 %** and **“Self-Reflection Forms” by 10%**.
- **Collaboration “between teachers” and “with parents”** positively correlates with CPD too.

	Self Reflection Sheet	Fortnightly Meeting	Lesson Study	Academic Supervision
TSN Training	0.099	0.009	0.181	0.010
Collaboration between Teachers	0.047	0.233	0.039	0.335
Collaboration with Parents	0.045	0.147	0.164	0.002

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Test Score

- No significant impacts of trainings and CPD activities on teacher's test scores.
- **Introversion** (hesitation in collaboration with other teachers) has significant negative correlation with scores.

	Math Score	Science Score	Total Score
Academic Supervision	-0.259	0.296	-0.189
SelfReflection Sheet	-0.026	0.127	0.382
Fortnightly Meeting	0.083	0.013	0.146
Lesson Study	0.022	0.165	0.394
Introversion	-0.374	-0.292	-1.168

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Motivation & Satisfaction

- No impacts of trainings and CPD
- **Introversion** has negative correlations
- **Collaboration “between teachers” and “with parents”** has positive correlations

	Want to be a good teacher.	Want to improve my teaching skills.	Want to improve my subject knowledge.	Want to improve how to use teaching materials.
Introversion	-0.136	-0.167	-0.132	-0.194
Collab. bet Teachers	0.190	0.182	0.190	0.292
Collab. with Parents	0.101	0.091	0.077	0.198

	Proud of teaching profession.	Happy when students understand my lesson.	Want to continue teaching profession.	Enjoy working with my colleagues.
Introversion	-0.108	-0.025	-0.071	-0.114
Collab. bet Teachers	0.182	0.294	0.110	0.077
Collab. with Parents	0.102	0.121	0.231	0.220

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Difficulty in Teaching

- **Lesson Study** and **Academic Supervision** contribute to reducing difficulty.
- **Collaboration with URC and parents** also matter.
- **Introversion** has strong connection with difficulty.

	Feel difficulties to manage class during lesson.	Not confident to teach some science topics.	Not confident to teach some math topics.	Confused with different teaching methods.
Lesson Study	-0.256	-0.256	-0.125	-0.082
Academic Supervision	0.136	-0.335	0.016	0.019
Introversion	0.395	0.829	0.626	0.405
Collab. with URC	-0.062	0.143	-0.254	-0.344
Collab. with Parent	-0.545	-0.111	-0.318	-0.362

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Teaching Methods



















- **Fortnightly School Meeting** and **Lesson Study** enhance preparation of teaching materials and homework.
- **Collaboration** has significant positive correlations with various teaching methods.

	Prepare teaching aids when it is necessary.	Use teaching materials in addition to textbooks.	Take students out of class room during lesson.	Give student homework which has scope for thinking.
Fortnightly Meeting	0.123	0.004	0.089	-0.027
Lesson Study	0.062	0.060	0.007	0.094
Collab. bet Teachers	-0.012	0.509	0.257	0.379
Collab. with URC	0.119	0.007	0.175	-0.006
Collab. with AUEO	0.063	0.056	0.133	0.107
Collab. with Parent	0.240	0.337	0.391	0.399

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Introversion and Collaboration

- Do trainings and CPD affect introversion and collaboration? –**Yes.**
- **TSN training** and **CPD** activities tend to weaken introversion.
- **Academic supervision** can enhance collaboration “between teachers” and “with parents.”

	Introversion	Collab. between Teachers	Collab. with Parents
TSN Training	 -0.041	 0.013	 0.013
Marking Training	 -0.007	 0.032	 0.011
Needs based Training	 -0.009	 0.006	 0.013
Fortnightly Meeting	 -0.050	 0.017	 0.024
Lesson Study	 -0.033	 -0.004	 0.002
Academic Supervision	 0.007	 0.027	 0.071

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Analysis of Student's Outcomes

Possible Determinants

Outcomes

Individual Level Factors

- (1) Gender
- (2) Holding Own Textbooks
- (3) Study with Textbooks at Home
- (4) Existence of "Severe Teachers"

Household Level Factors

- (1) Composition of Family Members
- (2) Household Assets (newspaper, books, appliances, livestock, etc.)

School Level Factors

- (1) Training (2) CPD (3) Collaboration
- (4) New Curriculum (5) School Type
- (6) Other school characteristics

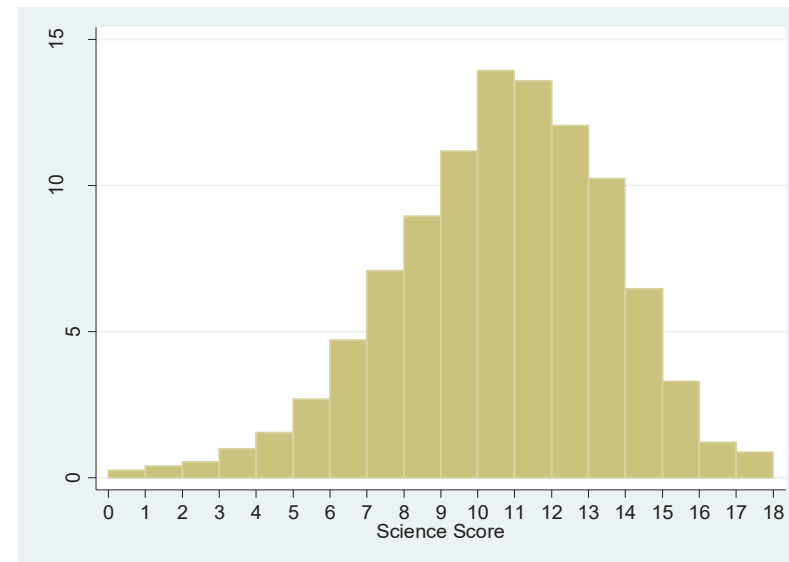
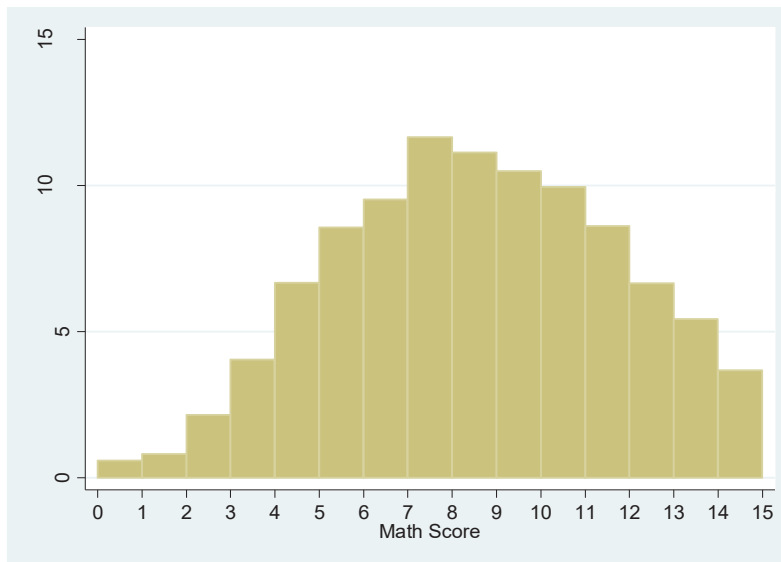
Test Score of Math & Science

Preference for Math & Science

Fear of Mistake in the Class of Math & Science

Outcome Variables for Students

	Unit	Average
Math Score (max: 15 points)	Score	8.1
Science Score (max: 18 points)	Score	10.1
Total Score (max: 33 points)	Score	18.2
Like Science	Yes/No	9%
Like Math	Yes/No	35%
Afraid of mistakes in Science class	Yes/No	22%
Afraid of mistakes in Math class	Yes/No	26%



Main Results of Test Scores

- Naturally, **“Have own textbooks”** and **“Study with textbooks at home”** have positive impacts on scores.
 - 8% of students reported that they do NOT have own textbooks.
- Household assets** and teacher’s **collaboration with parents** have substantial positive impacts.
- No impacts of trainings for teachers and CPD

	Math Score	Science Score	Total Score
Have own textbooks (=1 if Yes)	0.943	1.023	1.966
Study with textbooks at home (=1 if Yes)	0.688	0.687	1.375
Like Science (=1 if Yes)	0.430	0.484	0.914
Like Math (=1 if Yes)	0.335	0.220	0.555
Afraid of mistakes in Science (=1 if Yes)	-0.289	-0.293	-0.582
Afraid of mistakes in Math (=1 if Yes)	-0.142	-0.176	-0.318
Household asset: books (index)	0.414	0.699	1.113
Household asset: appliances (index)	1.983	1.595	3.577
Schools collaboration with parents (index)	2.724	2.193	4.917

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Main Results of Preference and Fear of Mistakes

- **Existence of “severe teachers”** loses student’s interest and makes them afraid of mistakes.
- There is a possibility that **new instruction books** with new curriculum are confusing for teachers.
- **Fortnightly School Meeting** and **Self-Reflection Form** may help students relieve the fear of mistakes.

	Like Science	Like Math	Afraid of Science	Afraid of Math
Existence of “severe teachers” (=1 if Yes)	-0.006	-0.029	0.113	0.123
Use rate of new instruction books (%)	-0.019	-0.052	0.121	0.115
Implementation rate of Fortnightly Meeting (%)	0.049	0.022	-0.127	-0.094
Implementation rate Self Reflection Sheet (%)	0.008	-0.003	-0.115	0.012

*Table shows coefficients (i.e. marginal effects) of regression analysis using Ordinary Least Squares. Coefficients with statistical significance (p value < 0.05) are shown in bold type.

Summary

- **Achievements:**

- TSN training can enhance CPD (esp. Lesson Study) and weaken teacher's introversion.
- CPD can mitigate difficulty in teaching, help teachers adopt various teaching methods, and promote collaboration "between teachers" and "with parents".
- Such collaboration is strongly correlated with teacher's motivation and satisfaction, and student's test scores for Science and Math.

- **Challenges:**

- Teachers seem not accustomed to new curriculum and new instruction books yet.
- The Subject-Based Training has little impacts on teacher's and student's outcomes.

Workshop on Implementation of Lesson Study Technique in School Level

Framework of Lesson study Monitoring Activities and Promotional Activities done from February to October 2017

JICA Support Program



Content of Today's Presentation

- Lesson study monitoring activities during JSP phase 2
- Lesson study promotion activities in 2017 and several types of monitoring
- Good points/weak points of the method

Lesson study monitoring activities during phase 2

- Duration: 2013 – 2015
- Targeted 40 Schools (30 Model schools, 10 PTI schools)
- Lesson Study group formation
4 teachers from each school were considered as Study group
 - Teacher 1: Teaching Mathematics (Grade III)
 - Teacher 2: Teaching Science (Grade III)
 - Teacher 3: Teaching Mathematics (Grade V)
 - Teacher 4: Teaching Science (Grade V)

Outline of monitoring Activities

Activities:

- Practice lesson observation
- Reflection of observations on Rubric
- Post lesson discussion

Focus of lesson observation:

- Achieving learning outcome
- Quality of teaching
- Quality of students learning

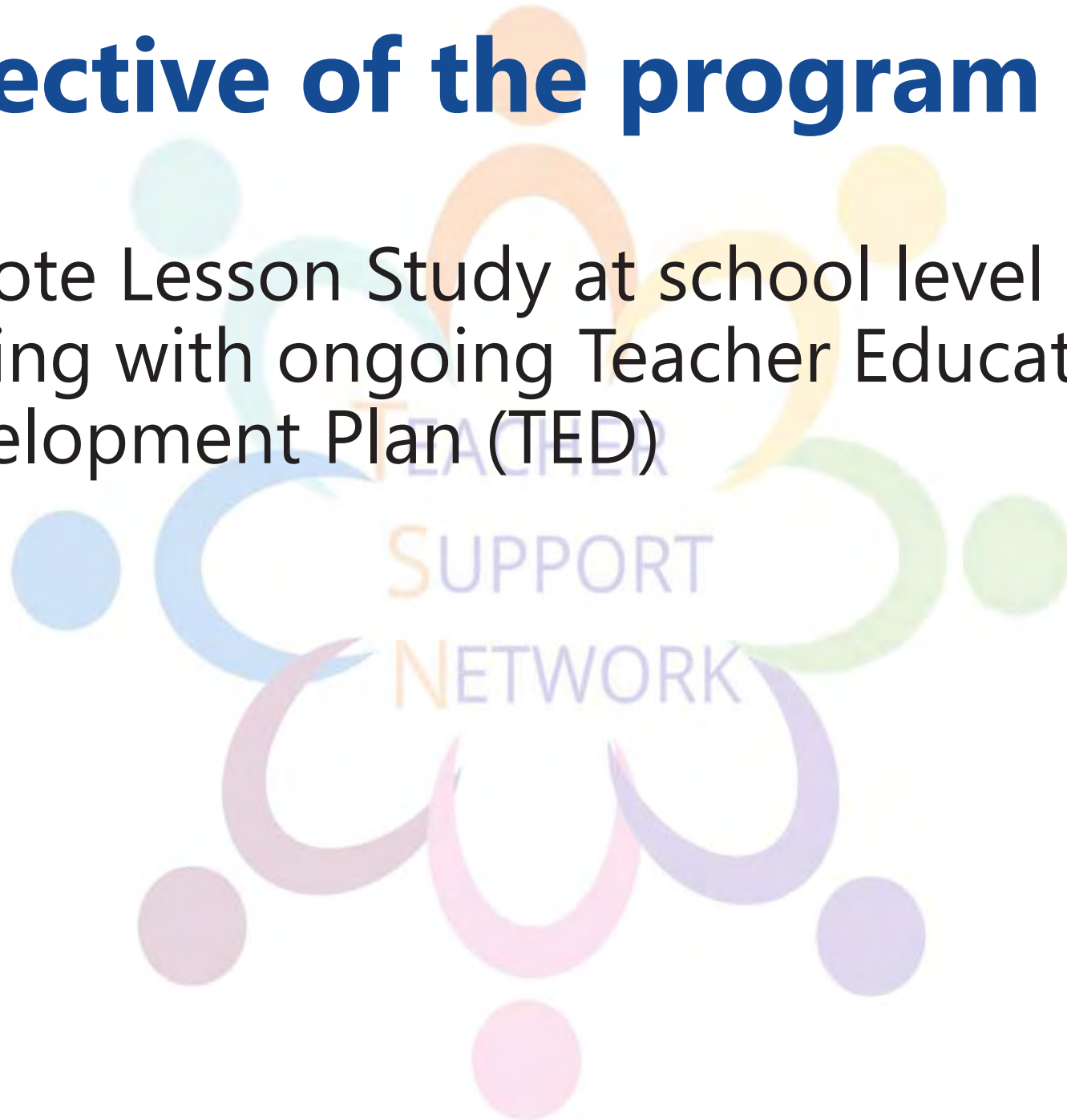
Lesson study promotion activities in 2017

Implementation of Lesson Study in School

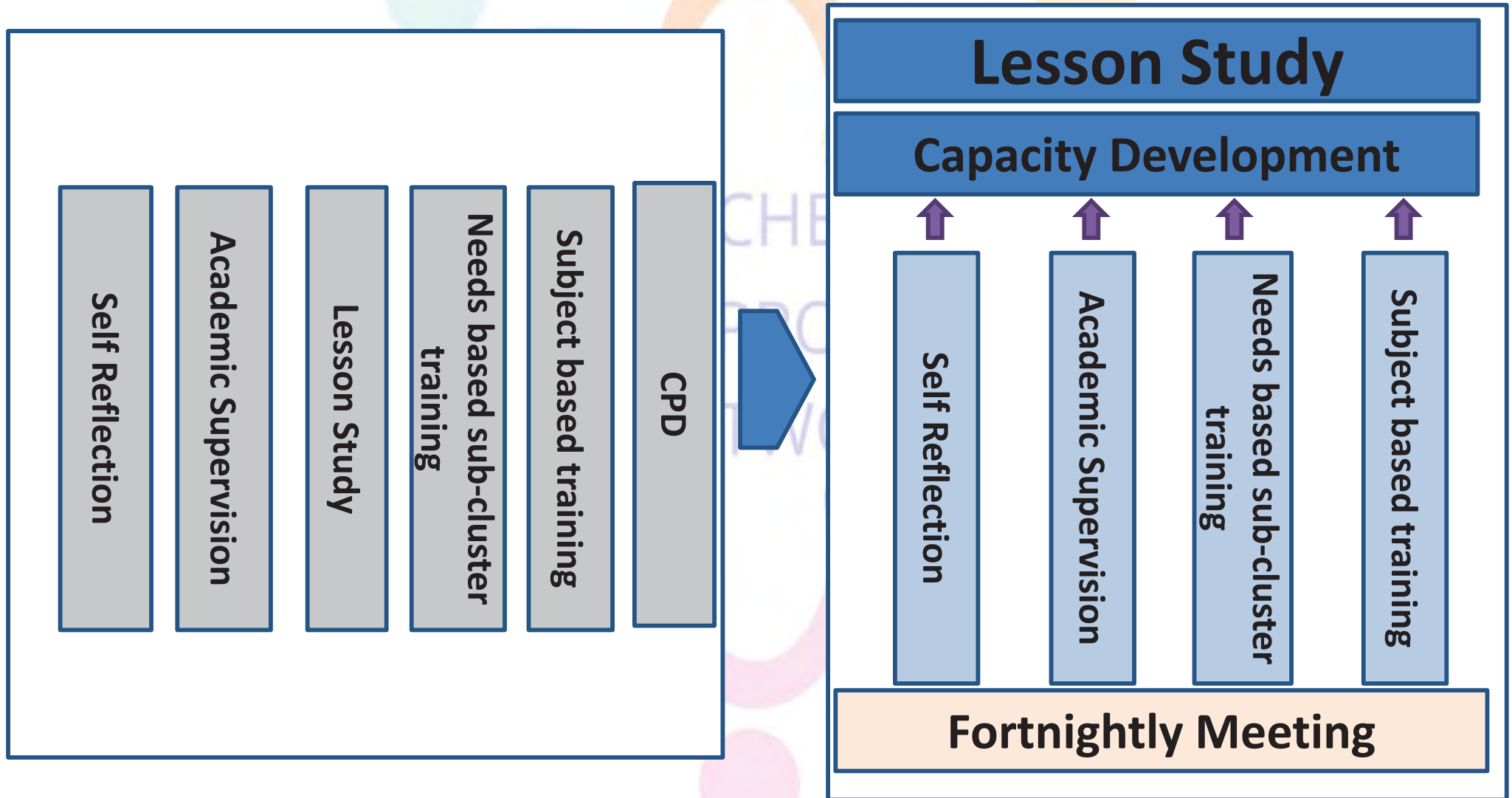


Objective of the program

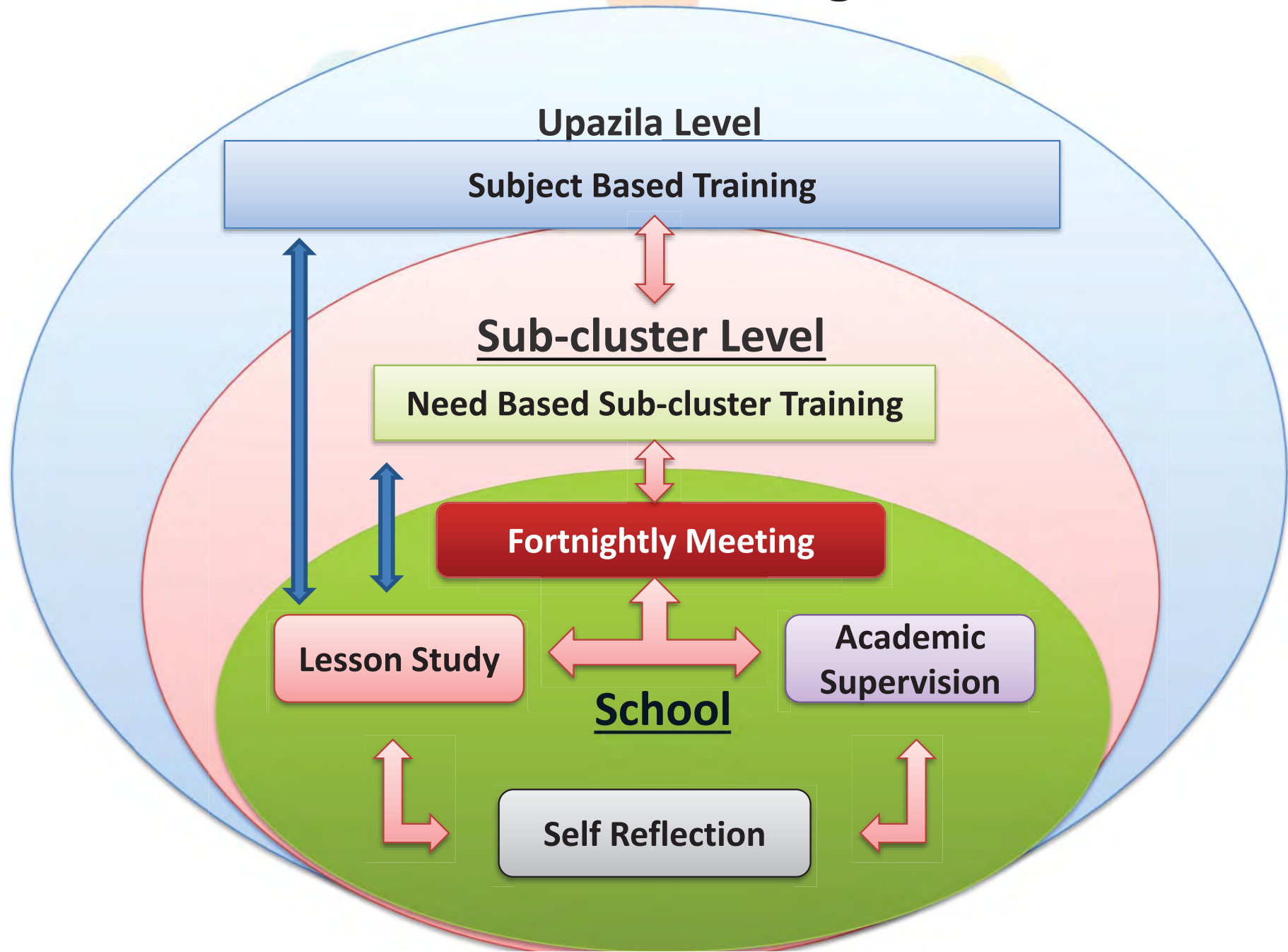
Promote Lesson Study at school level
Linking with ongoing Teacher Education
Development Plan (TED)



Integration and Implementation of Lesson Study with other CPD Programs



Integration and Implementation of Lesson Study with other CPD Programs



Expected outcomes

- Implementable example of teachers' professional development network will be established through lesson study.
- Effective monitoring and mentoring mechanism for lesson study in Upazila level will be identified.
- Develop an implementable model that will compile potential pilot activities.

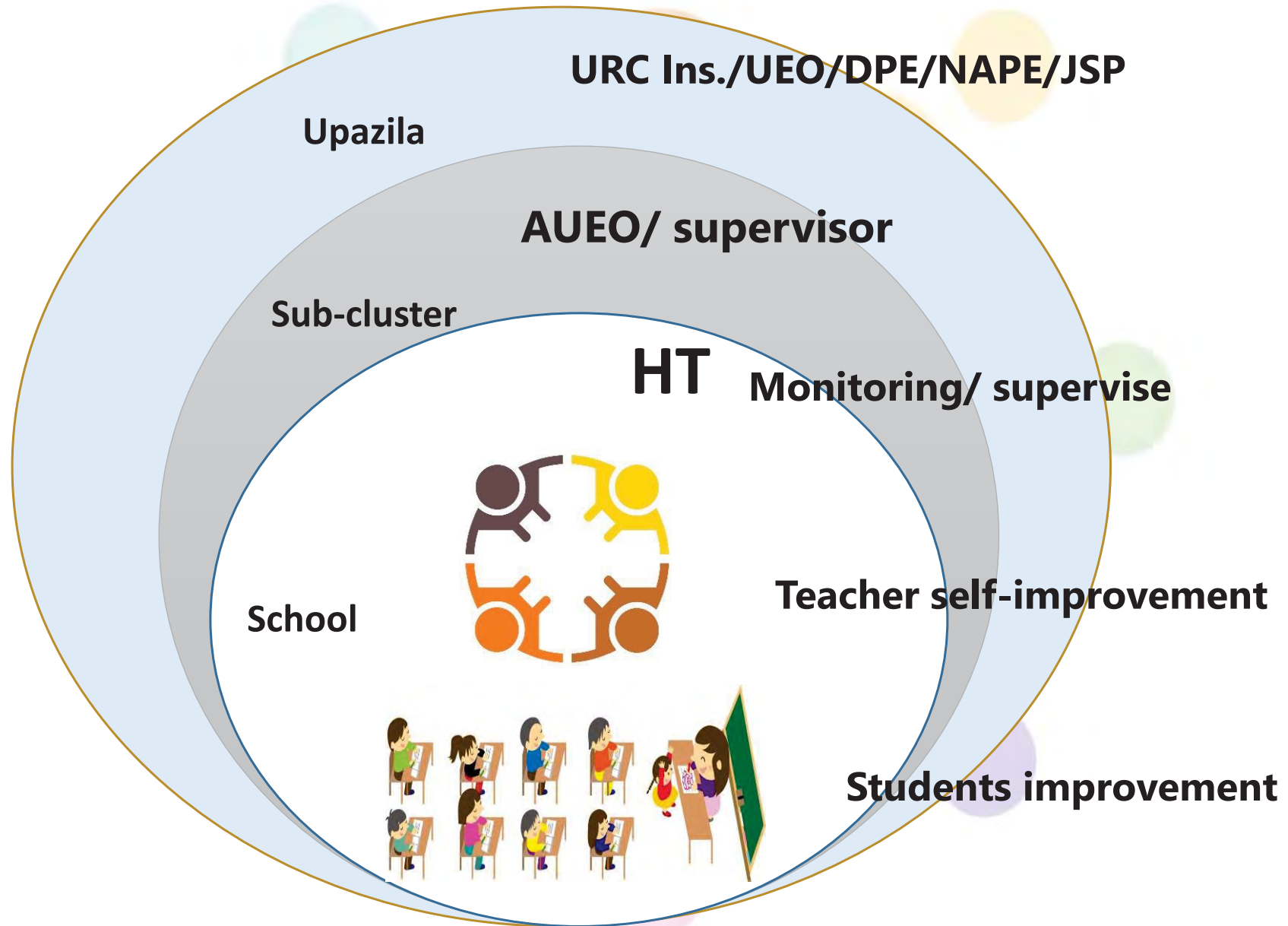
Target area of the promotional program

10 Upazilas
20 Sub-clusters
88 Schools

Lesson study promotion activities in 2017

- Kick off and Planning Workshop
- Promotional activities done by Upazila level
- Implementation at school level
- Monthly monitoring meeting at Upazila
- Regular monitoring activities
- Sharing Workshop

Concept of Monitoring Activity



Monitoring by JSP

- Face to face monitoring
- Monitoring and mentoring through Video observation
- Communication over Telephone
- Tablet Monitoring

Face to Face Monitoring

3 days monitoring activities

Days	Activities
Day 1	Observe monthly monitoring meeting
Day 2	School visit (2 focused schools)
Day 3	Feedback to each stakeholder

Monitoring and Mentoring through Video Observation

- From July 2017
- Getting schedule of lesson study from each school
- Video recording of lesson study activities
- Observing recorded video by JSP team at JSP office
- Use of observation tools
- Preparing written feedback and sending to schools through e-mail

Communication over Telephone

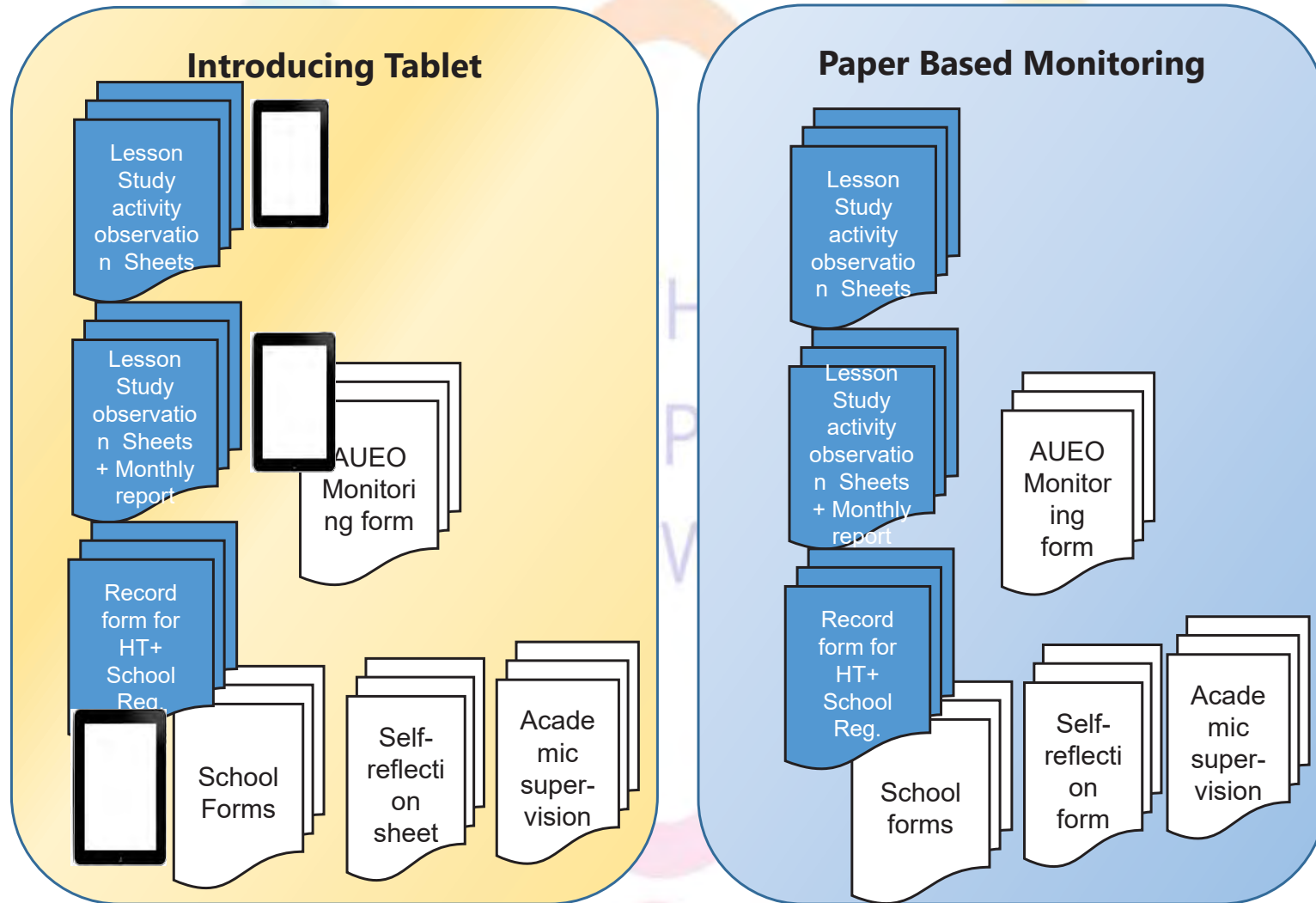
- Discuss about constraints and obstacles
- Giving necessary feedback
- Regular status review over telephone

TEACHER
SUPPORT
NETWORK

Tablet based Monitoring

- Tablet based monitoring introduced in July
- All HT and AUEO, URC instructors were provided tablets
- Data collection software named 'Survey Solutions' used in this system
- Guiding in face to face meeting in details
- Every month all participants send the information of implementation of lesson study to JSP

New System with New Tools



Good and Negative side of Tablet Based Monitoring

Positive

- Updated information immediately received
- Possible to send monitoring plan immediately
- Possible to accumulate the results without any data entry work
- Minimum cost of transportation and communication cost
- At the same time many group of people can have access to the data

Good and Negative side of Tablet Based Monitoring

Negative

- Need network connection
- Need machine
- Need basic technical skills for tablet operation

Recommendation

- Experience of tablet based monitoring should be shared with e-monitoring system which is now being tested under Monitoring Division of DPE
- Subject specialists are needed to assure the quality of lesson study
- Need to improve facilitation skill especially for conducting good quality of discussion

Cons.

Recommendation (Continue)

- Autonomy of conducting lesson study in school level
- Provide institutional support to the school and sub-cluster level.
- Introducing lesson study to all teachers and educators
- All the material related to lesson study should be provided to all schools.
- Need to conduct survey for assessing impact of lesson study

Thank you !



Lesson Study

Workshop on the Implementation of Lesson Study Technique in School Level

Lesson study and changes of mine

Ratna Rani Saha

Asst. Teacher

Supported by

Md. Omar Faruque

Asst. Teacher

Gulbagicha Model Govt. Primary School, Sadar, Comilla



JICA Support Program



Lesson Study: Beginning

- In 2012-2013 fiscal year, got concept of lesson study for the first time from **Teacher's Support Network (TSN)** training
- As a monitoring school of JICA Support Program Gulbagicha school started **implementing lesson study** in 2014
- **My school takes part in lesson study** as a part of 'Implementation of lesson study in school level' activities in 2017

The background features a logo for the Teacher Support Network. It consists of several stylized human figures in various colors (orange, teal, yellow, blue, purple, pink) arranged in a circle. Each figure has a circular head and a curved body. The text "TEACHER SUPPORT NETWORK" is written in a light purple font across the center of the figures.

My self-realization through Lesson Study and Observed Changes

Attitudinal Changes

- Mentality of self-assessment developed
- Increased confidence about teaching and demonstration lesson
- Increased mentality to learn through sharing
- Understand the importance of others opinion
- Increase interest in lesson observation
- Increase skills in assessing lesson
- Have a mentality to present own weaknesses

Observed Changes of Lesson

- Give students opportunity to think
- Give students opportunity to present their group work
- Verify students prior knowledge through question-answer
- Give challenging works related to the lesson
- Go near to all the students and keep eye contact
- Try to distribute the time according to the steps of the lesson
- Give feedback to students according to the need after assessment

Lesson study activities in my school



Students' Changes

- The rate of asking questions by students has increased
- Increased interest to do challenging works
- A positive competitive attitude created among the students through presenting group work
- Increased attention in lesson

Observed Attitudinal Changes among the Colleagues

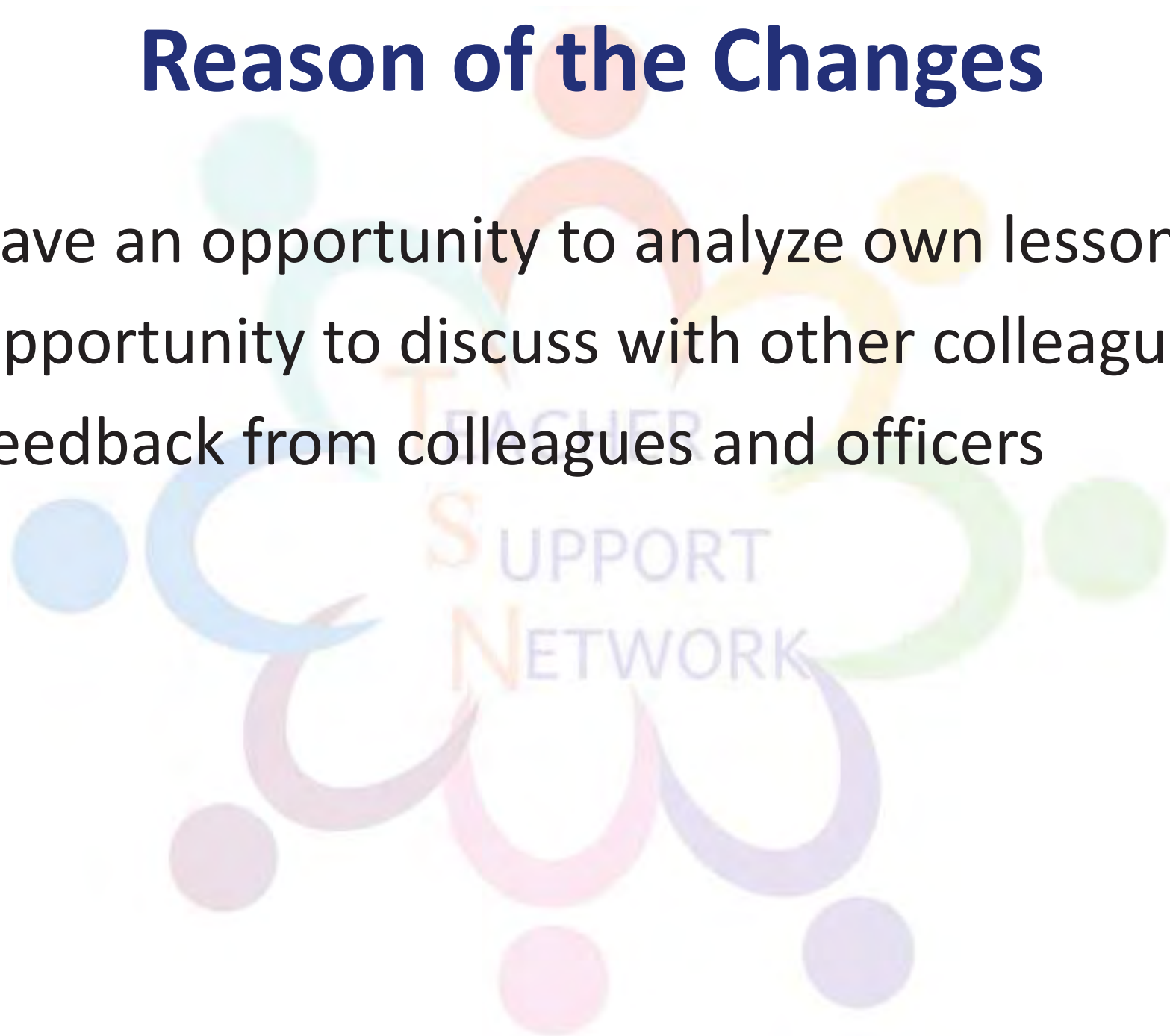
- Develop an attitude to give positive feedback and receive it
- Attitude to participate in discussion
- Cooperative attitude
- Develop interest to demonstrate and observe a lesson
- Effort to analyze the quality of the lesson
- Attitude for analytical discussion

Observed Attitudinal Changes among the Colleagues

- Selection of specific content of the lesson and then make the lesson plan
- Proper use of teaching aids
- Select appropriate teaching methods
- Create opportunity to present group work

Reason of the Changes

- Have an opportunity to analyze own lesson
- Opportunity to discuss with other colleagues
- Feedback from colleagues and officers



Comparative Discussion on Previous and Present lessons

- My lesson in 2011

[..¥Ratna Rani Saha Video-Babul¥NEW 2011.mpg](#)

- Changes in my lesson in 2017

[..¥Ratna Rani Saha Video-Babul¥NEW 2017.mpg](#)

The logo for the Teacher Support Network is centered in the background. It features the words "TEACHER", "SUPPORT", and "NETWORK" stacked vertically in a light blue, sans-serif font. The text is surrounded by a cluster of colorful, stylized human figures. Each figure is composed of a circular head and a curved, open-bottom body, resembling a person with arms raised or a stylized letter 'C'. The colors of the figures include shades of orange, teal, yellow, light blue, green, purple, and pink. The entire graphic is set against a plain white background.

Thank you

Workshop on the Implementation of Lesson Study Technique in School Level

Changes of Our School through Lesson Study

Akhter Yesmin
Head Teacher

Razia Akhter
Assistant Teacher

Thonthonia Model Government Primary School



JICA Support Program



Brief Introduction of the School

89 No. Thonthonia Model Government Primary School

Bogra Sadar, Bogra

Total students : 585

Total teachers : 14

Student-Teacher Ratio : 42:01



Implementation of lesson study at the school level

In 2012-2013 fiscal year, received TSN training

As a Monitoring School of JICA Support Program Thonthonia Model Government Primary School has been engaged in lesson study since 2013.

Lesson Study Monitoring Activities

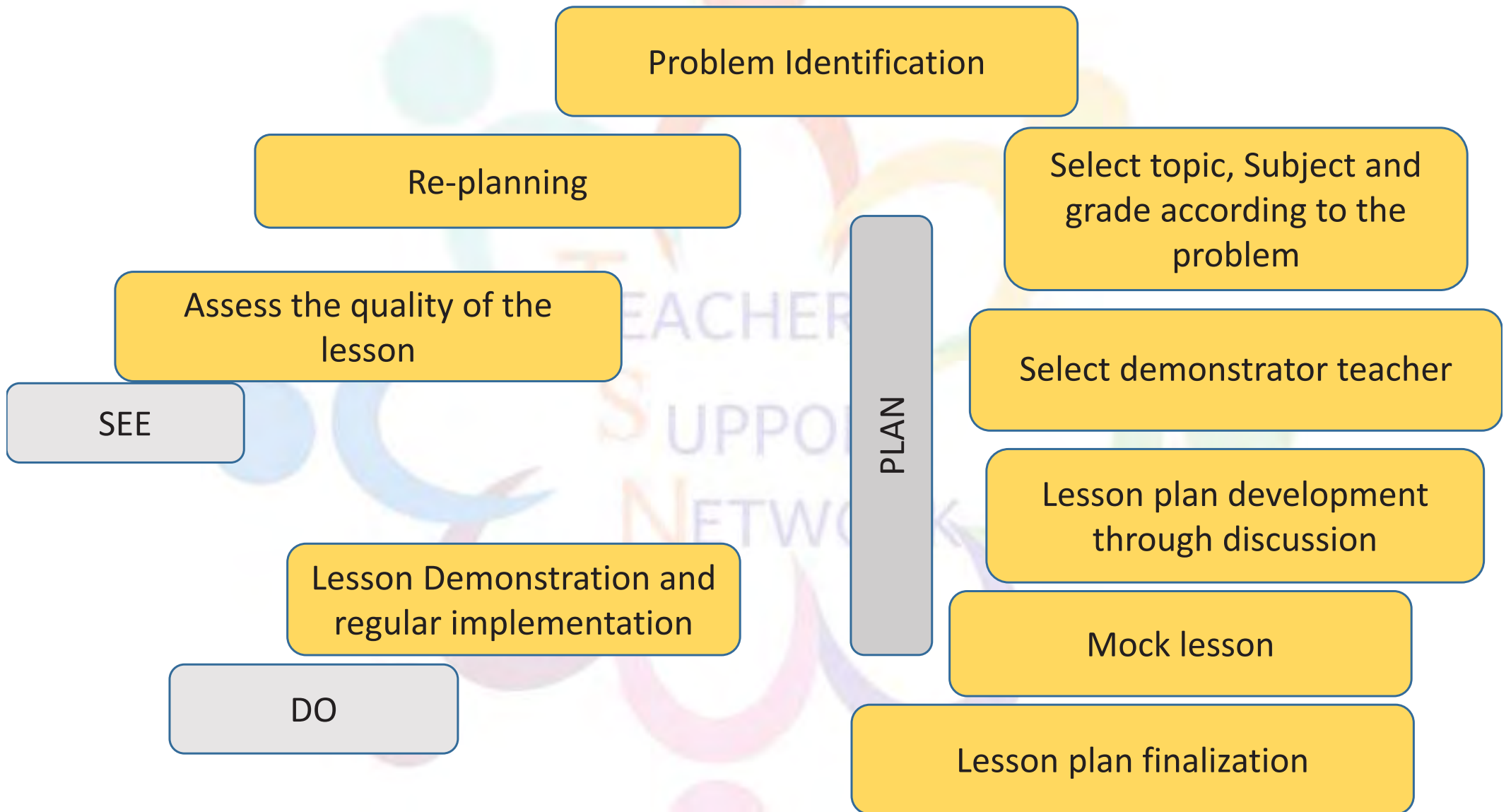
- Duration: 2013-2015
- Form a lesson study group
- Make lesson plan and development (use teacher's profile)
- Lesson demonstration and observation
- Observe video of the demonstration lesson
- Organized post lesson discussion

Implementation of lesson study at the school level

In the year 2017, my school is conducting lesson study as a part of the 'Lesson Study Implementation at the School Level' program

- Organized lesson study in fortnightly meeting
- Annual plan of lesson study

Lesson Study Process



Problem Identification Process

- Clarifying the concept of **self-reflection form fill up** and **academic supervision** through problem identification process of lesson study
- Problem identification through reviewing the **terminal examination results of students**
- Prioritizing the areas of development obtained from all teachers' completed self-reflection forms, the **selection of teacher, grade and subject** in light of the identified problems

Problem identification in fortnightly meeting



Changes of Teacher

Attitudinal Changes

- Make the habit of exchanging opinion among colleagues
- Developing attitude of cooperation
- Attitude of providing and receiving constructive feedback
- Not hesitant to present their lesson or have their lesson observed
- Positive expressions in lesson study activities
- Understand the importance of completing self-reflection forms
- Making efforts to develop content based knowledge and professional skills

Lesson study activities



Lesson plan
development
meeting

Mock lesson



Changes of Teacher

Technical Changes

- Not hesitant to conduct lesson demonstration
- Create opportunity to express student's thoughts / opinions
- Lesson presentation considering the prior knowledge of students
- Use of real life-based examples
- Use appropriate lesson related materials
- Provide precise instructions for the group work

Changes of Teachers

Technical changes

- Ensure the active participation of the students
- Present the steps of the lesson consistently
- More conscientious about time distribution of lesson
- Selection of appropriate assessment methods and provide feedback
- Provide clear instructions for planned work
- Make a detailed lesson plan

Changes of Students

- Pay more attention in lesson than before
- Interested in expressing their opinion
- Feel comfortable to ask questions



Ensure the Active Participation of the Students



Assistance of the concerned officials

- Organized an orientation meeting for the promotion of lesson study
- Observe the progress of the lesson study activities
- Providing necessary suggestions and guidance in conducting activities
- Encouraging by participating in the activities of lesson study

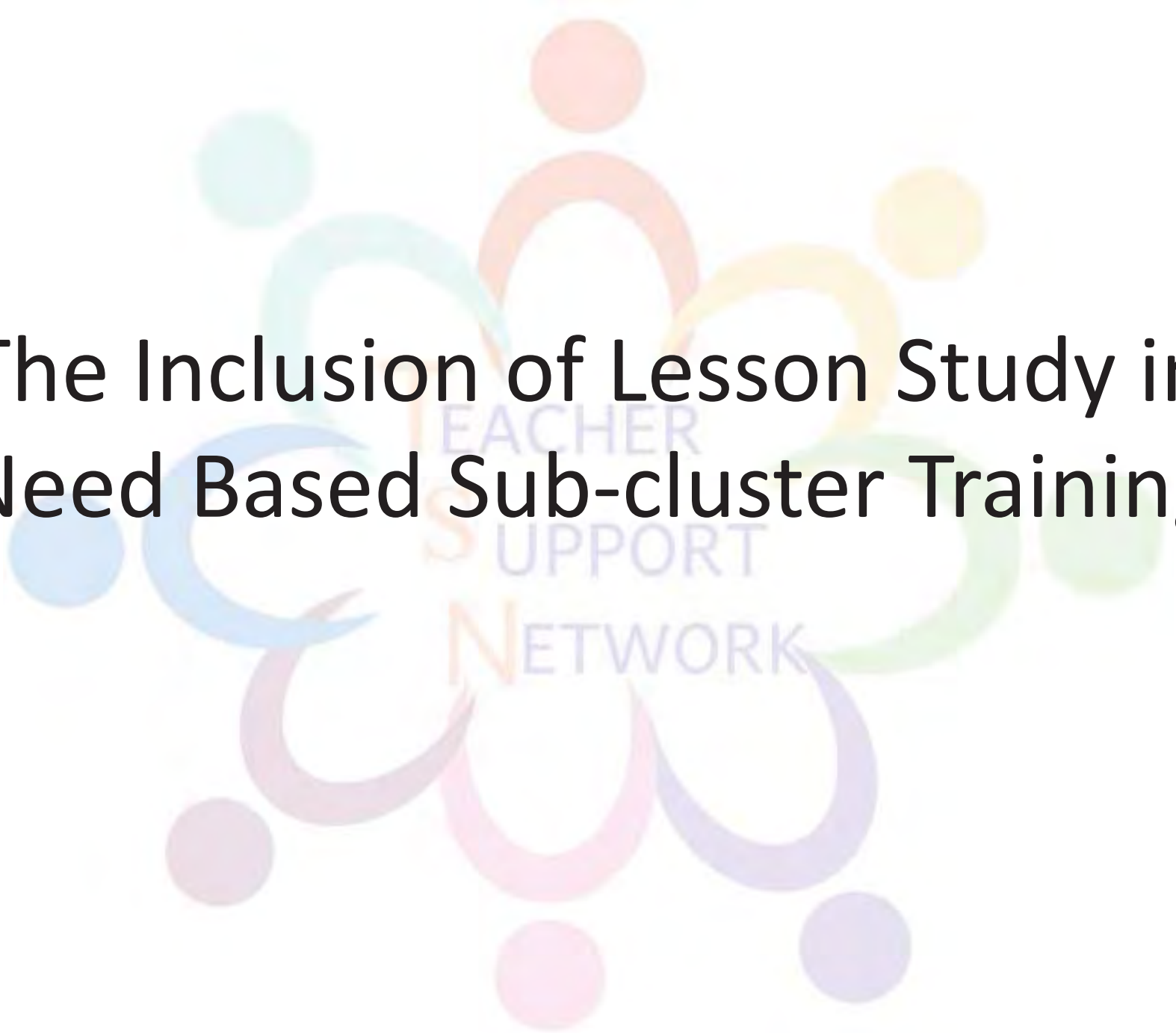
Lesson Observation



Officers, Assistant Teachers and Teachers from other school observe the final lesson in our school

Relationship with Other Cluster Schools

- Mutual opportunities created for observing our lessons under 15 clustered schools
- Opportunity for exchange of constructive discussions and experiences has led to positive competitive attitude in the preparation and presentation of standard lesson plans

The logo for the Teacher Support Network is centered in the background. It features a stylized human figure composed of colorful, rounded shapes. The head is a red circle, the torso is a red arch, and the legs are two purple arches. Surrounding the figure are several other colorful circles and arches in shades of teal, yellow, blue, and pink. The text "TEACHER SUPPORT NETWORK" is written in a light blue, sans-serif font across the center of the logo.

The Inclusion of Lesson Study in Need Based Sub-cluster Training

Future Action Plan

- At least **three lesson study cycle** will be implemented in next annual action plan
- In the short-term, work on **increasing efficiency** of planning and development of lesson plan by **all the teachers**
- Discussion on teachers' **teaching difficulties** regularly in the **fortnightly meeting** and take necessary action

Recommendations for Attached new schools in Implementing the Lesson Study

- Observing skilled colleagues / lesson study activities at other schools
- Start to follow the steps of lesson study
- Improve the quality of the steps gradually
- Invite subject-based experts

The logo for the Teacher Support Network is centered in the background. It features the words "TEACHER", "SUPPORT", and "NETWORK" stacked vertically in a light blue, sans-serif font. The text is surrounded by a cluster of colorful, stylized human figures. Each figure is composed of a circular head and a curved, open-bottom body, resembling a person with arms raised or a stylized letter 'C'. The colors of the figures include shades of orange, teal, yellow, light blue, green, purple, and pink. The entire graphic is set against a plain white background.

Thank you

Workshop on the Implementation of Lesson Study Technique in School Level

Upazila's Success Scenario to Implement Lesson Study

Md. Roman Mia

Asst. Upazila Education Officer

Sadar, Sylhet



JICA Support Program



Involvement in Lesson Study

- In 2012-2013 fiscal year, took part in ToT at Sylhet PTI
- Given brief concept of Lesson study as a part of Marking scheme training
- Conduct TSN training from 2013-2014 fiscal year
- Observe the progress of lesson study activities in the TSN trained schools

Promotion of Lesson study

- **Organizing Orientation Meeting (February, 2017)**
 - An elaborate discussion about lesson study among all teachers of 10 schools of selected 2 sub-clusters
 - Explain the importance of lesson study
 - The issue of problem identification for lesson study is highlighted in this meeting (Through Self-reflection form/ Academic supervision/ Analysis of students' results)
 - Lesson study is included in school's annual work plan.

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Promotion of Lesson study

- Assure the implementation of lesson study in schools through regular communication
 - Lesson study implementation in fortnightly meeting
 - Special supervision for non-trained teachers
 - Ensure other schools' teachers are invited to lesson study activities
- Observe and give necessary suggestions through attending the activities of lesson study at schools

Promotion of Lesson Study

- Organize Monthly Monitoring Meeting
 - By the supervision of Upazila Education officer and share experience with other cluster's officers
 - Share experience with the instructor of Upazila Resource center
 - Decision making to implement lesson study in all schools of the Upazila

Promotion of Lesson Study

- Lesson study session in Head Teachers' Monthly Coordination Meeting
- Dissemination of Lesson study from sub-cluster to cluster level

Monthly Monitoring Meeting



Activities of the Promotion of Lesson Study



Session on lesson study in Head Teacher's Monthly Coordination Meeting

Frequently Asked Question by Teachers

- Selecting a method which is appropriate for the classroom with a large number of students
- When many observers participate and give their opinion, difficult to identify and agree on effective areas for development
- Self-reflection form fill up and problem identification process
- Selection of demonstrator teacher and topic

Frequently Asked Question by Teachers

- Extra workload
- Concept of 'Mock lesson'
- Long-term process
- Spend extra time after school hours
- Use of rubric

Observed Changes in School

- Teacher's hesitancy decreased in demonstration lesson
- Teachers can identify their weaknesses
- Achieve the capability to fill up the self-reflection form to identify problem
- Teachers are inspired to work as a team
- Receive other colleagues feedback warmly for developing the quality of the lesson
- Students interest in participating have increased

Picture of Observing Lesson Study Activities



Challenges

- Maintain the continuation of implementation of lesson study of untrained teachers
- Implementation of lesson study in the absence of monitoring officers

Recommendations

- At the beginning of the year allocating a session on lesson study in Head Teacher's Monthly Monitoring Meeting and give necessary instructions there
- Provide idea about conducting lesson study in fortnightly meeting, the revision of the 'Lesson Study Implementation Strategy Guide Book' is needed

Recommendations

- Supervision of all Assistant Upazila Education Officers
- Know the progress of lesson study implementation and provide necessary suggestion/encouragement
- Share experience of lesson study in open discussion session of Sub-cluster Training



Thank you

Workshop on the Implementation of Lesson Study Technique in School Level

Lesson Study for the Development of Teaching Learning Activities

Md. Toriqul Islam Shegun

Instructor, URC

Sadar, Gazipur



JICA Support Program



Involvement with Lesson Study

- Orientation on TSN in 2012-2013 fiscal years
- In 2014-2015 fiscal years, conducting TSN training and implementing lesson study in those schools that have got TSN training

Involvement with Lesson Study, 2017

- Took part in Kick-Off Workshop in February
- Organize an orientation meeting with teachers
- Organize a follow up workshop with local school teachers who are interested in lesson study

Planned Activities of Lesson Study

School name:

Sl.no.	Activities	Implementation Time	Remark
1	Problem identification in fortnightly meeting		
2	Subject, topic, grade, demonstrator teacher selection		
3	Prepare lesson plan		
4	Lesson plan development		
5	Make and collect teaching aids		
6	Lesson plan finalization and take preparation		
7	Lesson demonstration, observe and give feedback		

Annual work plan of lesson study

Time period for demonstration lesson in 4 lesson study cycles

- April (1st week)
- May (Last week)
- August (1st week)
- October (2nd week)

Organized Lesson Study Orientation Meeting

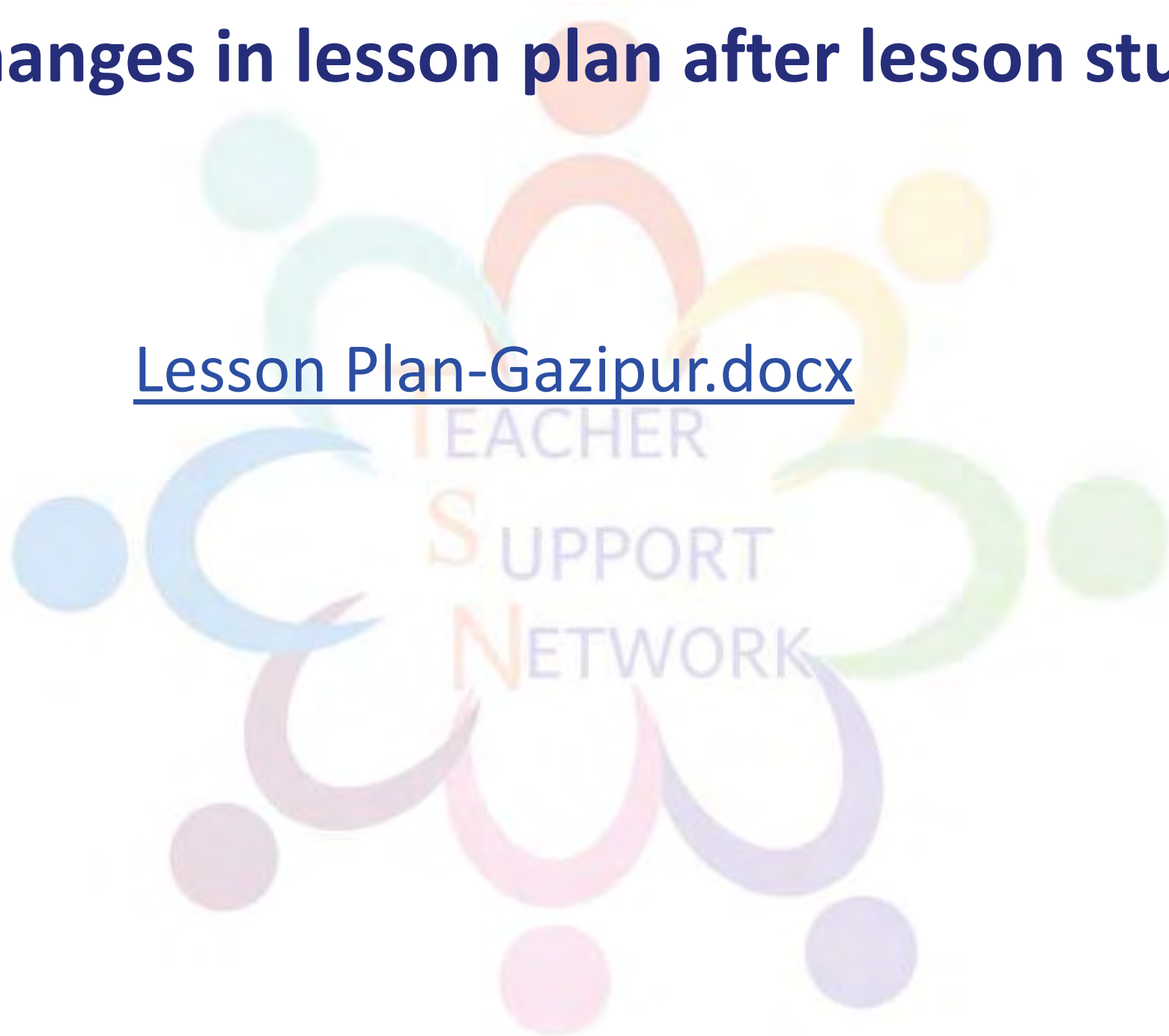


Support in Developing Lesson Plan

- Ensuring proper teaching method, techniques, assessment techniques, teaching aids selection in lesson plan and use in lesson.
- Ensure the relevance of teaching learning activities with the topic
- Mention the teaching learning activities in lesson plan specifically
- Provide needed feedback after observing the lesson and ensure that feedback are applied in next lesson

Changes in lesson plan after lesson study

[Lesson Plan-Gazipur.docx](#)



Changes Observed in Teachers

- Subject knowledge increased
- Teachers' skills in lesson plan preparation improved
- Teachers are being efficient in presenting lesson in the planned time
- Teacher can select specific methods and techniques related to topic
- Proper uses of teaching aids are ensured

Changes Observed in Teachers

- They can maintain sequence while presenting the topic
- Mentality of taking help of colleague while preparing lesson plan is formed.
- Realizing the importance of taking lesson with preparation.

Teachers awareness to give Quality Lesson



Changes in students caused by lesson study

Students' attitudes of the schools where lesson study is implemented	Students' attitudes of the schools where lesson study is not implemented
Students are asking questions frequently	Students are scared to ask questions
Students can do hands-on work.	Less opportunity to do hands-on work.
Students help each other in group work.	Students don't get opportunity to work in group.

Lesson study activities in different schools



Challenges

- Encourage teachers who did not get training to participate in lesson study
- Allocate enough time for lesson study due to lack of teachers
- Remedy the lack of skills in identifying problems from self-reflection form
- It is difficult to attend lesson study activities of every school

Recommendations

- Including problem identification process in TSN training module is necessary
- Refreshment training
- Organize training quickly for those schools who did not get training before
- Arrange workshop on lesson study implementation progress in URC quarterly

Recommendations

- Allocate time for lesson study in fortnightly meeting in school level.
- Lesson study implementation related discussion in monthly coordination meeting, open discussion session of need-base sub-cluster meeting, school visit, and over mobile phone.



Thank you

Workshop on Implementation of Lesson Study Technique in School Level

Summary of Changes of lesson Study During the Piloting Phase



JICA Support Program



Background of Lesson Study Piloting

- Lesson Study approach is one of the most successful approaches for **teachers' professional development enhancing PCK.**
- Lesson Study helps to build PCK to enhance their **professional skills** within **school set up.**

Background of Lesson Study Piloting

- From JSP's internal survey, it appears that teachers and field level officers are very much **eager to practice Lesson Study**.
- Under the framework of TED plan, JSP has initiated a **pilot program in 20 selected schools under 10 Upazilas** in ten districts across the country (February –October 2017)

Observations of JSP team about first monthly monitoring meeting (March,2017)

- Some schools has been continuing to conduct lesson study since 2012 and some schools started Lesson Study after **participating in the Kick-Off Workshop** in February 2017 at NAPE
- Schools teachers' faced **challenges in identification of teaching problems.**

Observations of JSP team about first monthly monitoring meeting (March,2017)

- The teachers suggested to **incorporate Lesson Study** practice in **daily routine /Annual Scheme of Work**.
- **Misconception about the Lesson Study** process among most of the teachers and field officers
- Field officers' **Concept of lesson study** and role for implementing lesson study **was not very clear**

First Sharing Meeting (09-10 July,2017)

- **Field officials** started to **involve themselves** in the process of Lesson Study actively
- **Collegial atmosphere** among officials and teachers is found and they are **working as a team** (to some extent);
- Making **linkage between teaching difficulties** and the **indicators given in the self reflection form** is not clear to most of the teachers and head teachers.
- Teachers have a better **understanding** of the **problem identification process**

First Sharing Meeting (09-10 July,2017)

- Head Teachers tried to prepare an **action plan** regarding **Lesson Study implementation** at their school.
- **Fortnightly meetings** are going on regularly and they discuss academic and **lesson study issues** in the meeting.
- Most of the **Head Teaches are confident** enough to **carry out Lesson Study** activity in their schools (findings from the monitoring of JSP Team).

Feedback from the JSP Video Monitoring Team

- Identified **problems** should be on **academic issues**
- **Textbook and Teacher's Edition** should be referred to and used during the meeting on Lesson Plan Development
- **Post Lesson Discussion** should be based on conducted lesson, Textbook, Teacher's Edition.

Feedback from the JSP Video Monitoring Team

- **Head Teacher** should be the facilitator in the **post lesson discussion** as well as all other stages.
- All teachers should have **a copy of the lesson plan** during the meeting.
- It is strongly recommendable to **keep a record** of the meeting.

Significant Changes (Monitoring)

- Teachers realize the **usefulness of the technique** for improving classroom teaching and learning.
- Involvement of **field level supervisors** (UEO,URC Instructor AUEO)

Changes of Teacher's viewpoint

- Provide scope/ opportunity for students to **think and share their ideas**.
- Checking the **prior knowledge** through Q/A and other tools.
- Provide **challenging task** related to the lesson topic.

Changes of Teacher's viewpoint

- Provide **feedback** to the student based **on assessment**.
- Use life-oriented **examples** and lesson related **teaching aids**.
- Use of proper teaching aids and selecting the appropriate methods
- Provide clear **instruction** for group-work and planned activities.

Changes of Teacher's viewpoint

- Select the appropriate assessment methods and provide feedback.
- Select the proper methods and techniques according to the topic.
- Present the lesson maintaining the consistence and coherence of the lesson.

Changes of Teacher's viewpoint

- Teacher can **use the self-reflection** form and is able to **identify** their own **areas for development**.
- Changes in teacher's attitude to take their **colleagues support/ comments**.
- Lesson study helps to understand the **importance of preparation** for the lesson.
- **Subject knowledge enriched** through Lesson study.

Changes in Student's Learning

- Interested to **share** their opinion.
- Feel comfortable to **raise questions**.
- Students gets chance to conduct **hands-on activity**.
- Students are effectively **participating** in **group work**.
- Develop **positive attitude and competition** among students to present the group work.

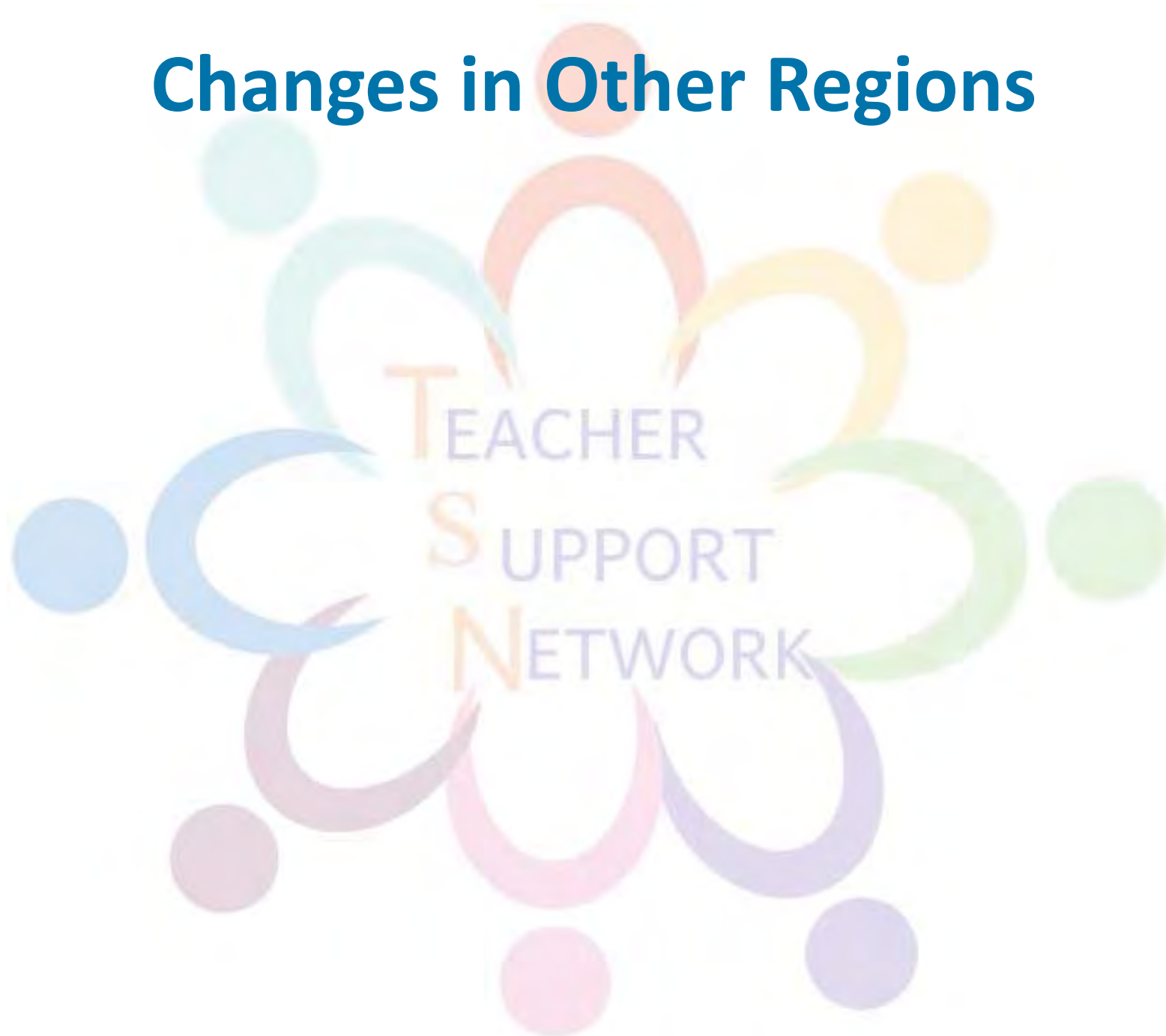
Reasons for change

The logo for the Teacher Support Network is centered in the background. It features the words 'TEACHER', 'SUPPORT', and 'NETWORK' stacked vertically in a light blue, sans-serif font. The text is surrounded by a collection of colorful, abstract shapes including circles and thick, curved lines in shades of orange, yellow, green, blue, and purple.

- Opportunity for analysis of own lesson
- Scope for discussion with other colleagues

Changes in Other Regions

- 1.
- 2.
- 3.
- 4.
- 5.



Way Forward

- Use the **local human resources** of Lesson Study
 - TSN training participants
 - DPEd graduates
 - Master trainers of Math and Science
- Organize **small groups** of lesson study teams in cluster level or upazila level

Recommendation to DPE

- **Three** days orientation is needed
- **Follow up** training is needed
- Need some organizational set up for **district level** lesson study **workshop** in cooperation with PTI

The image features a central graphic of stylized human figures in various colors (orange, teal, yellow, blue, purple, pink) arranged in a cluster. Overlaid on this graphic is the text 'Thank You' in a large, bold, orange font. In the background, there is a faded version of a logo with the text 'TEACHER SUPPORT NETWORK' in blue and orange.

Thank You

TEACHER
SUPPORT
NETWORK

Report of the workshop on

Implementation Status of Lesson Study Technique at School Level

Date : Date: 25 October 2017
Time : 8:45 – 16:40
Venue : Multipurpose Hall, DPE

Workshop objectives:

To share the approaches and tips for conducting lesson study effectively.
To share the outcomes from lesson study implementation

Workshop methodology:

Power Point presentation and open discussion

Participants:

Participants from all 10 pilot program upazilas (sadar upazilas of Barisal, Bogra, Chittagong, Comilla, Gazipur, Jessore, Mymensingh, Rangpur, Rajshahi and Sylhet districts) were present. The participation rate was remarkably high; notably all field officers, head teachers (HT) and assistant teachers (AT) from the pilot upazilas were present.

DPE	7
MOPME	1
NAPE	3
NCTB	1
PTI superintendent	3
URC instructor	10
UEO	9
AUEO (2/upazila)	19
Head Teacher (2/upazila)	20
Assistant Teacher (2/ upazila)	20
Other (including JSP team)	27

Workshop program

The one-day program consisted of six sessions excluding the opening and closing sessions. Major sessions were:

1. Overview of JSP activities and Result of Impact Survey
2. Framework of Implementation of Lesson Study Promotion Activities

3. Experience Sharing of School Teachers
4. Experience Sharing of Field Officers
5. Summary of impact of Lesson Study
6. Open Discussion

Opening

1. Chief Guest Mr. Iftekher Hossain Bhuyan, Deputy Director (Training) of DPE

He thanked JICA's support particularly in the quality improvement of teaching and learning. He also encouraged teachers to cooperate and share their experiences among each other for improving the quality of education. He suggested for all teachers to remove their own weaknesses by sharing their problems with colleagues in coordination with their respective head teachers. Wishing everyone's success he concluded his speech.

2. Ms. Akiko Hanya (Lesson Study Expert) of JICA said a few words for the participants. Ms. Akiko introduced herself and said that she does not know much about Bangladesh but she was eager to learn about the educational status of the country.
3. Director (Training) DPE Greeted all honorable guests and JSP team members. He expressed his heartfelt gratitude to Japan. He mentioned that Japan has been providing all kinds of support for development since after the liberation. He mentioned that lesson study aims to improve continuous professional development. JICA has been providing their fullest support to develop primary level education in Bangladesh. Quality education is a life-long process.

Session1. Overview of JSP activities and Result of Impact Survey

by Takashi Soma (Team Leader JSP2)

Mr. Takashi Soma introduced himself as the Team Leader of JSP2. He briefly explained the outline of the survey which was conducted by JSP2 covering 70 schools in 35 upazilas in May 2017. The method of the survey was computer assisted personal interviewing (CAPI) for teachers and paper and pencil interviewing for students. The survey interviewed 1486 teachers including head teachers and 9476 students of grade four.

The Research questions were 1) about the determinants of CPD activities for pedagogical scores for science and math, motivation, satisfaction and difficulties in teaching and adoption of various teaching method for teachers and; 2) determinants of test scores for science and math, preference for science and math and fear and mistakes for science and math classes for students.

As for teachers' outcome the survey found no significant impact of training and CPD activities reflected on teachers' scores; however, TSN and lesson study was found to reduce the teachers' introversion.

TSN training increased implementation rate of lesson study by 18% and self-reflection sheet by 10%. Collaboration between teachers and with parents positively correlates with CPD too.

The main results of difficulty in teaching indicates that lesson study and academic supervision contribute to reducing difficulty, collaboration with URC and parents matters by a lot and introversion has a strong connection with difficulty in teaching. In terms of teaching methods, the survey finds Fortnightly Meetings and lesson study enhance preparation of teaching materials and homework. In addition to this, collaboration has significant positive correlations with various teaching methods. As for the main results of introversion and collaboration the survey finds Trainings and CPD affects introversion and collaboration. TSN training and CPD tends to weaken introversion and academic supervision may enhance collaboration between teachers and with parents.

Analysis of students' outcomes was focused on three factors such as individual level, household level and school level. Individual level includes (1) Gender, (2) Holding own textbooks, (3) Study with textbooks at home and (4) Existence of severe/strict teacher. Similarly, household level includes (1) Composition of family members and (2) Household assets (newspaper, books, appliances livestock etc.)

The possession of the textbook showed the positive impact on the students' performance. (Approximately 8 % of students responded that they do not have own textbook at the time of survey conducted). Existence of severe/strict teachers increases the likelihood of students making mistakes.

Summary of findings:

- (i) Existence of severe teacher loses students' interest and makes them afraid of making mistakes,
- (ii) There is a possibility that new instruction books and new curriculum are confusing to teachers, and
- (iii) Fortnightly School Meetings and Self-Reflection Forms may help students to be relieved from fear of mistakes.

Achievements:

- TSN training can enhance CPD (esp. Lesson Study) and weaken teacher's introversion.
- CPD can mitigate difficulty in teaching, help teachers adopt various teaching methods, and promote collaboration "between teachers" and "with parents".
- Such collaboration is strongly correlated with teacher's motivation and satisfaction, and student's test scores for Science and Math.

Challenges:

- Teachers seem not accustomed to the new curriculum and new instruction books yet.
- The Subject-Based Training has little impact on teacher's and student's outcomes.

Finally, Mr. Soma mentioned that lesson study has a positive impact on CPD, classroom teaching, and collegial relations which are correlated with teacher's motivation and satisfaction.

Q&A

Mr. M Alam: Textbooks were distributed to all students in Bangladesh. How come 8% students do not have own textbooks?

Mr. T. Soma: The survey was conducted in limited extent. We have only extracted the facts that we derived from the survey.

Session 2: Framework of Implementation of Lesson Study Promotion Activities

Mazhar Khan, NAPE

Dipti Das, JSP2

Session Leader: Imamul Islam, DPE

Mazhar Khan, Assistant Specialist of NAPE, demonstrated the framework of implementation of Lesson Study promotion activities through PowerPoint presentation. The promotional activities started from February to October 2017. The presentation includes monitoring activities during JSP phase 2, several types of monitoring on Lesson Study promotion and good/weak points of the method applied for the same.

The monitoring activities included: (i) Practice lesson observation, (ii) Reflection of observation on Rubric, and (iii) Post lesson discussion. The lesson observation mainly focused on learning outcome achievement, quality of teaching and quality of students' learning. In connection with Implementation of Lesson Study in Schools, the core objective was to promote lesson study at the school level linking with the ongoing Teacher Education Development (TED) plan.

Mr. Mazhar Khan took the opportunity to demonstrate the integration and implementation of lesson study with other CPD programs through several slides. He also showed the coverage of CPD in line with school, sub-cluster and upazila level. Mr. Mazhar Khan believes that the following outcomes can be derived from the monitoring activities:

- Implementable examples of teachers' professional development network will be established through lesson study.
- Effective monitoring and mentoring mechanism for lesson study in upazila level will be identified.
- Develop an implementable model that will compile potential pilot activities.

Target area of the promotional program is 88 schools under 20 sub-clusters of 10 upazilas. The promotional activities in 2017 were: (i) Kick-off and planning workshop, (ii) Promotional activities done by upazila level, (iii) Implementation at school level, (iv) Monthly monitoring meeting at upazila, (v) Regular monitoring activities, and (vi) Sharing workshop.

Mr. Mazhar Khan explained the conceptual structure of monitoring as such that head teacher monitors and supervise students' improvement and teachers' improvement at the school level. Then, AUEOs supervise at sub-cluster level while other related officers/organizations such as URC Instructors, UEO, DPE, NAPE monitor at the upazila level.

- **Face to face monitoring**

JSP team organized three-day field visit monitoring. On the first day they observed the upazila monthly monitoring meeting, and visited two target schools on the second day, while they provided feedback to each stakeholder on the third day.

- **Monitoring and mentoring through Video observation**

The above activities started from July 2017. JSP team collected the schedule of lesson study activities from each school, and then recorded videos of the lesson study activities performed in the schools. The videos were then observed at JSP office by using observation tools and feedback was provided to concerned schools through e-mail.

- **Communication over Telephone**

JSP team always kept contact with schools over telephone. The team members discussed about constraints and obstacles and provided feedback where necessary. In fact, JSP team monitored the status regularly over telephone.

- **Tablet Monitoring**

Tablet based monitoring was introduced by JSP in July 2017. JSP provided tablets to all head teachers, AUEOs, and URC instructors. Data collection software titled “Survey Solutions” was used in the device. With the help of this software, all the above-mentioned personnel were able to send information regarding implementation of Lesson study to JSP. Thus, paper based monitoring has been turned into electronic device based monitoring system. Both positive and negative sides remain with the tablet based monitoring system. Immediate receipt of up to date information, immediate transfer of monitoring plan, availability of accumulating results without data entry, minimizing transportation and communication cost and access to data by many people at a time are the positive sides of this system. On the other hand, requirements of network, device and basic technical skill etc. are considered as negative sides of the system.

The facilitator provided the following recommendations in order to promote monitoring:

- Experience of tablet based monitoring should be shared with the e-monitoring system which is now being tested under the Monitoring Division of DPE
- Subject specialists are needed to assure the quality of lesson study
- Need to improve facilitation skills especially for conducting good quality of discussion
- Need autonomy of conducting lesson study in school level
- Provide institutional support to the school and sub-cluster level.
- Introducing lesson study to all teachers and educators
- All the material related to lesson study should be provided to all schools.
- Need to conduct survey for assessing the impact of lesson study

Mr. Mazhar Khan concluded his presentation by giving thanks to all the participants.

Q&A:

Q1: What were the outputs from the tablet based monitoring?

Dipti Das: We received two sets of data from each school in last August through on-line transmission.

Q2: Did the data have evidence on whether the teacher is taking class or about monitoring?

Dipti Das: The data reflected whether teachers/head teacher could identify difficulties. Changes have been occurring in their mentality, but it will certainly take time.

Q3: Do you have any plan to practice providing institutional support to school and sub-cluster level?

Mr. Mazgar Khan: We may form teams with lesson study experts and provide support at cluster and upazila level in an appropriate manner.

In this connection Mr. Iftekher Hossain Bhuyan added that we cannot proceed away from the mainstream. It is quite difficult to upgrade thousands of primary schools through project support only. Session Head also commented that Lesson study has been putting a positive effect on teacher's professional development as well as students' learning.

Session 3: Experience Sharing of School Teachers

**Ratna Rani Shah Assistant teacher,
Gulbagicha Model GPS, Comilla**

Ratna Rani Shaha of Gulbagicha Model GPS was invited to share regarding her experience with lesson study implementation at her own school. She explained that changes have occurred in her and her colleague teachers due to the impact of lesson study. She first knew about lesson study through Rupatar Kotha.

Her realization and remarkable behavioral changes through Lesson Study are:

i) Mentality toward self-assessment, ii) increased confidence in teaching, iii) learning through sharing experiences, iv) understanding the importance of other's opinions, vi) learn from other teachers' lessons, vii) improved skills in evaluating classroom teaching, and vii) possible to identify her own weaknesses.

Remarkable changes have also occurred in classroom teaching. Now teachers in her school provide some time to students for thinking, group work, assess students' prior knowledge through question and answer, provide challenging tasks related to the lesson, try to distribute time according to the steps of the lesson and provides necessary feedback to students through the assessment.

Before teachers taught students by standing in one place. After lesson study implementation in her school they learned to go see each student and keep eye contact while teaching.

She also observed some student's changes such as the number of questions they asked, positive competitive attitude during group work presentation, and their attention to studying increased.

Behavioral changes also occurred in her colleagues. Their attitude toward providing and accepting positive feedback, participating in discussion, cooperation, showing interest in lesson demonstration and observation, analyzing quality of lesson and analytical discussion have been increased. At present, they set and develop lesson topics and lesson plans in an accurate manner, use teaching aids properly, set exact method and provide opportunity for presentation of group work. She concluded that that the reasons behind these changes were they are able to get

opportunities to evaluate their own classroom teaching, discuss among colleagues, and receive feedback from colleagues and related officers. As an example, the teacher displayed videos of two classes conducted in 2011 and 2017 to let the participants judge the differences in her teaching.

Q&A:

Teacher's guide supplied by NCTB includes the direction for using group work presentation, previous knowledge assessment etc. Lesson Study help teachers to practice these things in the classroom.

DD (Training) DPE: It is better to know how the head teacher assists in this matter. Head teacher of Gulbagicha GPS was called to say something regarding this.

Mr. Hafiz (HT of Gulbagicha GPS) said that he always supported teachers to be less introverted and motivated teachers to be cordial and sincere in their classroom teaching. As a result, he has been able to motivate all 21 teachers in his school.

Mr. Faruque: So far by just seeing this short video clip, I don't see much changes between the two classes conducted in 2011 and 2017. However, the teacher's attitude has been changed and collegial mentality has been increased. Implementation of lesson study has eliminated teacher's numbness. The quality of teaching has been increasing through collaboration among teachers.

Session 4: Experience Sharing of Changes of School

**Akhter Yasmin (Head Teacher) and Razia Akhter (Assistant Teacher)
Thonthania GPS, Bogra**

This session was conducted by the head teacher and assistant teacher of Thonthania GPS, Bogra. First of all they introduced themselves and about their school. They both participated in the one-day TSN training. Their school was engaged with lesson study in 2013 under Lesson Study monitoring program by JSP.

Ms. Razia: At the beginning we 4 teachers of our school along with the former head teacher received the opportunity to be involved with JSP program by taking the one-day long TSN training. This training gave them an initial idea on how to teach by reviewing the lesson plan in order to achieve sustainable learning outcomes. During the program they also watched "Rupantar Kotha 1" and it made them clear about the ideas of lesson study. Teaching package also helped them to improve their lessons by improving their lesson plan.

In between 2013 – 2015, JSP team came and assisted them with developing lesson plans and classroom teaching through lesson study. After the new program started in February 2017, they included lesson study into their annual plan and they took the opportunity to show it in their slideshow.

They now plan lesson study through the process of identifying the problems in teaching in fortnightly school meetings and accordingly select the class, subject, and lesson topic as well as demonstration teacher. Also, they identify problems by reviewing results of the term exams alongside filling out the self-reflection form and academic supervision. After conducting these activities, behavioral changes of the teachers have been observed. They are now accustomed to exchanging opinions with colleagues, realize the importance of the self-reflection form and put an effort to improve in terms of professional development and subject knowledge. They don't hesitate to participate in lesson study activities.

As for strategic changes, the teachers are ensuring students' active participation, presenting steps of lessons in succession, use perfect assessment methods, provide feedback, clear instructions for homework, and prepare a comprehensive lesson plan. Not only teachers' but also students' changes have been observed. They have become more attentive to their studies, show interest in providing their own ideas and feel free to ask questions.

She also mentioned about the support from AUEO, URC instructors who regularly attended to observe lesson study in their school. PTI superintendent and instructors also came and provided necessary feedback and suggestions. Their presence meant a lot to teachers in terms of subject-based instruction.

They are now developing a cluster-wise lesson study network with 15 other schools under their cluster and they observe lessons in each other's schools. As a result, opportunities for constructive discussion and experience sharing have been created, as well as a positive attitude towards competition in preparing and presenting ideal lesson plans.

She also mentioned that lesson study was selected as a topic of Need-Based Sub-Cluster Training in August 2017 and their school teachers were given an opportunity to develop an ideal training manual of lesson study. She assured the audience that they will complete at least 3 times of lesson study in an academic year as written in their annual plan, and take measures to enhance their skills in developing lesson plans for all teachers. They also took necessary steps to mitigate their obstacles of teacher's development through regular discussion in Fortnightly School Meetings.

She recommends for schools who will start lesson study to follow the steps of lesson study and improve every step gradually. Also, she emphasized the importance of inviting subject –based experts during lesson study implementation. Finally, she concluded that changes will be seen by committing to continue the same process through the years.

Q&A:

Q: What type of cooperation did you get in lesson study steps?

HT: The syllabus of grade three is much more extensive than grade two. Students find difficulty especially in the four basic rules of calculation in word problems. I personally talked to the math teacher about this matter to find a solution.

Q: Being a head teacher how did you support?

HT: I arranged meetings after the school break to find a solution to this. We discussed on the necessary requirements and materials/teaching aids to make students understand word problems. Since I am not so good at math I gave this responsibility to the math teacher.

The head teacher and assistant teacher concluded their session by giving thanks to all participants.

Session 5: Experience Sharing of Field Officer 1

Roman Miah (AUEO), Sadar Sylhet

First of all Mr. Roman Miah narrated his connection with Lesson study implementation. In this regard he said that he joined TOT at PTI in 2012-2013 fiscal year and conducted TSN training from 2014-15 fiscal year and then observed the progression of lesson study in the schools which received training. As for lesson study promotion, his upazila held an extensive discussion with all teachers of 10 schools under 2 sub-clusters at an information sharing meeting. This meeting included an explanation on the importance of lesson study, identification of problems in implementing lesson study through reviewing self-reflection form/academic supervision and students' results. Finally, lesson study was included in the school's annual plan. Apart from this, the issues such as implementation of lesson study in fortnightly school meeting, special monitoring for untrained teachers and invitation to neighboring schools to attend lesson study activity were also ensured. In monthly meetings, he suggested to teachers not to include students in the mock lesson. Involving students in every step of lesson study process may cause disinterest among them. Mr. Roman included lesson study in the Monthly Coordination Meeting of head teachers and disseminated lesson study from the sub-cluster to cluster level.

In connection to teachers' regular queries he added that selection of the suitable methods by class size, difficulties in filling out self-reflection form and selection of demonstration teacher and topics. Though the teacher commented some difficulties like work-load, lengthy procedure, spending more time after school break, filling in the self-reflection form and usage of rubric, Mr. Roman finds the following changes in teachers:

- Numbness in teaching has been reduced
- Teacher is able to identify their own weaknesses in teaching
- Acquired ability to fill out self-reflection form by identifying difficulties
- Teachers are inspired through team-work
- Teachers are accepting colleagues' opinions in developing the quality of teaching-learning
- Students' interest for learning has been increased

Mr. Roman considers continuation of lesson study implementation by untrained teachers and to conduct lesson study without the presence of monitoring officers as challenges. He proposed that the work plan and instruction for lesson study implementation should take place at the very beginning of the year in the Monthly Coordination Meeting of head teachers and to provide the concept for conducting lesson study in Fortnightly School Meetings, and the need to revise the related "Lesson study implementation technique guide book. He also proposed that all AUEOs should monitor lesson study implementation, know the process of lesson study and provide

recommendation/feedback accordingly as well as share experience of lesson study in the open discussion in sub-cluster training.

Q&A

Q: How do teachers overcome difficulties? How do you provide feedback?

AUEO: This is a process. Once a teacher is introduced with the process, he will learn the ways to overcome the difficulties.

Q: There is no time for mock lesson. How do you manage?

AUEO: We make time for the mock lesson.

Session 6: Experience Sharing from field officer 2

Md. Tariqul Islam Segun

URC Instructor

Sadar, Gazipur

Mr. Tariqul Islam received orientation on TSN during the 2012-13 fiscal year. Later from fiscal year 2014-15 he started providing TSN training and related lesson study implementation in TSN trained schools. He participated in the Kick-Off workshop in February, arranged information sharing meeting and a follow up workshop with local teachers interested in lesson study. He is also involved with development of a school based work plan. As for planned activities for lesson study he mentioned the following:

- Identify difficulties in Fortnightly School Meetings
- Selection of subject, lesson topic, classroom teacher
- Introduce lesson plan
- Improve lesson plan
- Collect and prepare teaching materials
- Finalizing lesson plan and taking preparation for the same
- Lesson presentation, observation and providing feedback

In the annual plan for lesson study implementation, the URC instructor scheduled 4 times of lesson study in a cycle which were the first week of April, the last week of May, the first week of August and the second week of October. In connection to providing assistance in developing lesson plan he mentioned the followings:

- Ensure appropriate method, technique, evaluation strategy selection of teaching materials and its use
- Ensure connection between teaching learning activity with topic
- Specific reflection of teaching learning activities in lesson plan
- Provide necessary feedback by observing classroom teaching and ensuring to implement the feedback in the next classroom teaching

He recognized changes of teachers in increasing their subject knowledge, skills for developing lesson plan, lesson segment within stipulated time, selection of appropriate method and technique in light of topic and proper usage of teaching materials. They are now able to present topics by keeping consistency, mentality developed in accepting colleagues' cooperation in preparing lesson plan and they have realized the importance of preparation before taking a class.

As for students' changes after implementation of lesson study, he showed a comparison as follows:

Students who have experienced lesson study implementation at school	Students who never experienced lesson study implementation at school
Students ask questions more	Students are afraid to ask questions
Students can do practical work (hands-on activity)	Do not get opportunity for hands-on activity
Students help each other in group work	Students do not get opportunity to work in groups

URC instructor of Gazipur Sadar considers the following points as challenges:

- To inspire teachers to participate in lesson study who did not receive training
- To fix sufficient time for lesson study due to shortage of teachers
- To identify weaknesses of teachers from self-reflection form
- It is difficult to attend lesson study activities in all schools

He also proposed including the problem-identification procedure in TSN training module, arrangement for a refresher training, arrangement of training in schools with untrained teachers, arrangement of quarterly workshop on advancement of lesson study in URCs, fixing a time for lesson study at Fortnightly School Meetings at the school level, lesson study advancement related discussion in monthly meetings, open discussion session in need-based sub-cluster training and during school visit and through mobile phone.

Session 7: Summary of Impact of Lesson Study

Mazharul Haque, NAPE

Session Leader: M.Iftekher, DPE

Mr. Mazharul Islam of NAPE firstly explained the background of the lesson study piloting. In this connection he mentioned that Lesson Study approach is one of the most successful approaches for teachers' professional development as well as PCK to enhance teachers' professional skill within the school set up. From JSP's internal survey it was found that teachers and field level officers are very much eager to practice lesson study. JSP initiated a pilot program in 20 selected schools under 10 upazilas in 10 districts across the country from February to October 2017 under the TED plan framework. Based on the first monthly monitoring meeting, JSP team observed that some schools have been continuing lesson study activities since 2012 and some other schools have started Lesson Study after participating in the Kick-Off Workshop held

in February 2017 at NAPE. The observation also finds that school teachers faced challenges in identifying teaching difficulties. In this connection teachers suggested to incorporate the lesson study practice in their daily routine or annual scheme work. The observation also found a misconception about the lesson study process among most of the teachers and field officers. Moreover, the concept on lesson study and their role in implementation of lesson study is not very clear among field officers. The findings of the first sharing meeting held on 9-10 July 2017 shows that field officers started involving them into the process of lesson study activities, collegial atmosphere has been developed among teachers and field officers, making linkages between teaching difficulties and the indicators given in self-reflection form is not transparent to most of the teachers and head teachers.

It was also found that the teachers have a better understanding of the problem identification process. Through sharing meetings, JSP monitoring team also found that head teachers are preparing an action plan in regard to lesson study implementation in their schools, regular commencement of Fortnightly School Meetings and lesson study issues are discussed in the Fortnightly School Meetings and most of the head teachers are confident enough to carry on lesson study activity in their schools. Feedback from JSP video monitoring team are: i) identified problems should be on academic issues, ii) Textbook and Teacher's edition should be used during the meeting on lesson plan development and post lesson discussion should be based on the conducted lesson, textbook and teacher's edition. In addition to this, head teacher will act as a facilitator in the post-lesson discussion, and all teachers should get a copy of the lesson plan during the meeting. JSP strongly recommends keeping a record of the meeting. It is found through monitoring that teachers realized the effectiveness of the technique for improving classroom teaching learning at the same time involvement of field officers (UEO, URC Instructor, AUEO) has increased.

Also, teachers are providing opportunity for students to think and share their views, checking prior knowledge by asking questions and using other tools and providing challenging tasks related to the lesson. Teachers are providing feedback based on assessment, using life oriented examples and lesson related teaching materials, providing clear instructions for group work and planned activities. Teachers are selecting appropriate methods, technique according to the topic and presenting the classroom teaching by keeping consistency within every step of the lesson. At present teachers can use the self-reflection form and are able to find their own weaknesses and where they need to improve. They have the mentality to accept support or comments from their colleagues. Lesson study helped them to realize the necessity of preparation before classroom teaching and subject knowledge enriched through lesson study.

Students also changed. Before students were not much interested and feel comfortable to share their opinions and ask questions, but after getting opportunity for hands-on activities, they actively participate in group work and they have a positive and competitive attitude in presenting group work.

Mr. Mazharul Haque believes that the opportunity to analyze one's own teaching and scope for discussion with other colleagues are the core reasons behind these changes. In this occasion he asked for more reasons from the participants but none could show any other reason.

He also suggested involving local resources for lesson study observation as experts. TSN training participants, DPED graduates and master trainers of Math and Science can be used. Small groups of lesson study teams at the cluster level under upazila can also be organized.

He paid thanks to all participants and concluded his presentation.

Session 8: Open Discussion Session:

DD (training) DPE asked about the reaction of today's workshop. First of all, he wanted to know reaction from assistant teachers.

One of the assistant teachers said that JICA has provided support to them which enabled them to enhance their quality in teaching. Teacher can develop himself/herself by adopting any method if there is sincerity.

Participant: Everyone is saying praises, but my reaction differs from them. Very few numbers of teachers use teaching aids and lesson plan during classroom teaching. Teachers will be motivated if an academic atmosphere is created. Teachers will be working with sincerity. In this connection a head teacher is the best supervisor and monitor.

Mr. Kafil Uddin (NCTB): During PEDP 2, 5 teaching packages were developed. Later these teaching packages were supplied throughout the country. JICA was involved with the primary curriculum revision. We had critically reviewed the science and math textbooks and revised accordingly. Students' tendency toward memorizing is a great problem. Science and math are not the subjects to memorize rather it requires understanding. DFID also has supported us to develop user-friendly and child-centered social study and language textbook by providing their language experts. In fact, successful implementation will be obtained through children. All efforts will go in vain unless teachers are not motivated, and learning is not ensured. Assessment method and assessment tools should be changed.

We have improved our quality of teaching by some extent. Residual quality should be achieved through lesson study. Difficulties in textbook and curriculum are possible to solve through lesson study. Gaps in teaching package, curriculum and textbook should be identified. If all related personnel are committed and devoted to their respective teams, the work will be improved.

Mr. Iftekher Hossain Bhuyian said that the stipulated time for the workshop is over as few sessions took ran over time. He thanked all presenters, audiences and JICA personnel and reminded teachers to help weak students to become more competent.

DD (Training) DPE declared the workshop closed.

Reported by: Parvez Rahman