

**Ministry of Education and Science
Mongolia**

**Project for Strengthening Systems for
Improving and Disseminating
Child-Centered Teaching Methods
in Mongolia**

FINAL REPORT

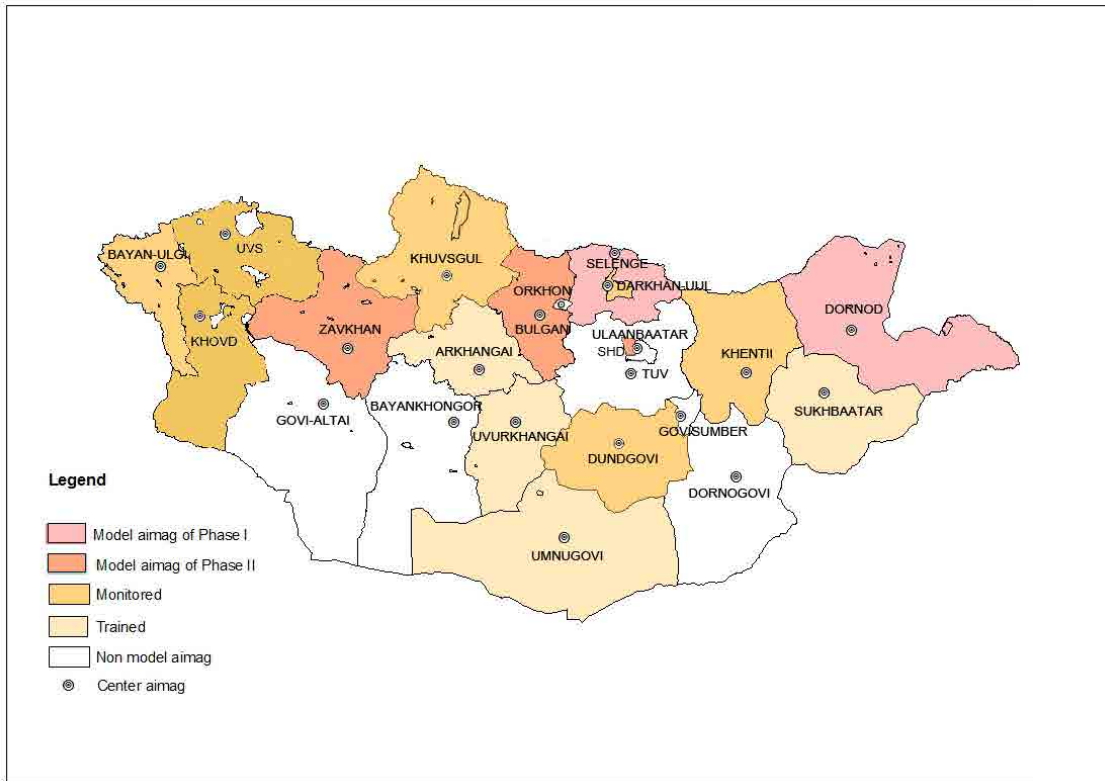
SEPTEMBER 2013

**JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)**

KRI INTERNATIONAL CORP.

MG
JR
13-001

Map of Mongolia with Project Input



Photographs of Project Activities



The first meeting to develop the Training Package
(May 2010)



Visit of model district/*aimags*
(September 2010)



Training for model district/*aimags*
(November 2010)



Lesson Study monitoring
(March 2011)



The first Joint Coordinating Committee
(May 2011)



Lesson Study Implementation Seminar
(June 2011)



Introduction of the Training Package to
the teacher education institutions
(August 2011)



Training in Japan
(September-October 2011)



Training targeting Arkhangai aimag
(March 2012)



Technical exchange program in Indonesia
(May 2012)



Development of Lesson Study video
(September 2012)



Lesson Study monitoring
(September-October 2012)



Lesson Study monitoring
(April-March 2013)



Training in Japan
(May-June 2013)



Handover of the Training Package
(July 2013)



The first Lesson Study Conference
(August 2013)

Abbreviation

DE	Department of Education
GOM	Government of Mongolia
JICA	Japan International Cooperation Agency
INSET	In-Service Teacher Training
ITPD	Institute of Teacher's Professional Development
MDGs/EFA	Millennium Development Goals/Education For All
MES	Ministry of Education and Science in Mongolia
NGO	Nongovernmental organization
PDM	Project Design Matrix
Phase I	Teaching Methods Improvement Project Towards Children's Development in Mongolia
PRESET	Pre-Service Teacher Training
The Project	The Project for Strengthening Systems for Improving and Disseminating Child-Centered Teaching Methods in Mongolia
The Teaching Methods	The teaching methods which support the children's development
UB	Ulaanbaatar

Summary

Project Name: Project for Strengthening Systems for Improving and Disseminating Child-Centered Teaching Methods

Target Country: Mongolia

Model District/Aimag: Songino Khairkhan District, Ulaanbaatar City, Bulgan *Aimag*, and Zavkhan *Aimag*

Cooperation Period: 1 March 2010 to 31 August 2013 (including an extended period of six months)

Counterpart Organization: Ministry of Education and Science

Outline: The Government of Mongolia (hereinafter referred to as GOM) introduced in 2005 a new education standard within the framework of the education sector reform. The reform includes the shifting from a 10-year basic education system to a 12-year education system, lowering the school entry age from eight to six years, and introducing new subjects, such as Integrated Studies and Integrated Science.

In accordance with the new education standard, teaching methods were also expected to change from conventional teacher-centered to student-centered ones. However, at the school level, it was difficult to implement the new education standard because its contents are rather academic and difficult for teachers to put into practice.

To address these challenges, “The Project on Teaching Methods Improvement towards Children’s Development” (hereinafter referred to as Phase I) was implemented from 2006 to 2009 under the cooperation of the Japan International Cooperation Agency (JICA) and the Ministry of Education and Science (hereinafter referred to as MES). Through Phase I, 27 teacher’s guidebooks have been developed and distributed to schools nationwide.

As the next step, it was considered necessary to disseminate the teaching methods that were developed during Phase I. In response to the request from the GOM, JICA implemented the “Project for Strengthening Systems for Improving Child-Centered Teaching Methods” (hereinafter referred to as the Project) in collaboration with the MES from March 2010.

The Project was scheduled to be completed at the end of February 2013. As the newly established Institute of Teacher’s Professional Development (hereinafter referred to as ITPD) became the main counterpart organization of the Project, the MES has requested JICA to extend the Project. Thus, the Project was extended for six months. The activities and outputs of the Project will be taken over by the ITPD.

Achievement of the Project:

The terminal evaluation was conducted from 30 September to 19 October 2012. The Project Purpose was evaluated as “mostly achieved.” The Lesson Study was conducted not only for the Project’s target eight subjects, but also for other subjects such as Mongolian Language and History. The Lesson Study was conducted at schools in non-model *aimags*. According to the Minutes of Meetings of the Terminal Evaluation, “beyond expectation, the overall goal has been partly achieved.”

Table S-1: Achievement of the Project

Narrative Summary	Indicators	Degree of Achievement	
		Achievement as of September 2013 (in the Terminal Evaluation)	Achievement Confirmed after the Terminal Evaluation
Super Goal : The learning achievement of primary and secondary students is enhanced.	Achievement test	Analysis was made on the change of students' achievement by providing a test conducted by the Zavkhan <i>Aimag</i> 's Department of Education (hereinafter referred to as DE). However, there were no significant statistical changes observed.	
Overall Goal : The child-centered teaching methods are implemented in the model and other districts/ <i>aimags</i> .	1) Sixty percent of all schools in the whole country implemented Lesson Study at least twice a year.	There are 476 out of 747 schools in the country which conducted Lesson Study at least once in 2011/2012.	There are 487 out of 752 schools (65%) in the country which conducted Lesson Study at least twice in 2012/2013.
	2) Training on the Teaching Methods is conducted at all district/ <i>aimags</i> .	<ul style="list-style-type: none"> • There are 19 out of 21 <i>aimags</i> which conducted the Training on the Teaching Methods in 2011/2012. • UB City's Department of Education (hereinafter referred to as DE) conducted subject-wise training 32 times, which were attended by 1,800 participants. 	<ul style="list-style-type: none"> • Sixteen <i>aimags</i> and UB City's DE conducted the Training on the Teaching Methods in 2012/2013. • A total of 14,932 teachers participated in these trainings. (The total number of teachers in Mongolia is 26,492.)
Project Purpose : Systems to disseminate the Teaching Methods nationwide are strengthened.	1) The quality of lessons utilizing the Teaching Methods for the eight subjects are practiced in the model schools.	Please refer to Attachment 4.	
	2) Lesson Study is conducted at least twice in at least 70% of schools in the model districts/ <i>aimags</i> every year.	The number of schools that conducted Lesson Study at least twice in 2011/2012: <ul style="list-style-type: none"> • Songino Khaikhan District: all 13 schools (100%) • Bulgan <i>Aimag</i>: 18 out of 23 schools (78%) • Zavkhan <i>Aimag</i>: all 29 schools (100%) 	The number of schools that conducted Lesson Study at least twice in 2012/2013: <ul style="list-style-type: none"> • Songino Khaikhan District: all 13 schools (100%) • Bulgan <i>Aimag</i>: 16 out of 23 schools (70%) • Zavkhan <i>Aimag</i>: all 29 schools (100%)
	3) All districts/ <i>aimags</i> formulated their respective training plan on the Teaching Methods.	All districts/ <i>aimags</i> formulated their own training plans.	
	4) Political, financial and human resources commitments are made by the MES.	MES issued many directives or instructions such as: <ul style="list-style-type: none"> • 2011.9.9 Instruction of Director of General Education No. 3/4973, <i>Reducing the Burden of Professional Team Members</i> • 2012.1.18 MES Minister's Order No. 24, <i>Implementation of Training to Improve Teachers' Professional Capacity</i> • 2012.1.31 Instruction of Director of General Education No. 3/427, <i>Implementation of PRESET to Improve Professional Capacity of Teachers (at the teacher education institutions)</i> • 2012.9.10 MES Minister's Order A-13, <i>Implementation of Training in Non-model Aimags</i> • The ITPD formulated their training plan. In its basic training, the 	

		Teaching Method utilizing Lesson Study was conducted.	
Output 1 : Capacities of district/ <i>aimag</i> teams at all district/ <i>aimags</i> to disseminate the Teaching Methods are enhanced.	1) Training participants' satisfaction and understanding increased.	<p>The levels of satisfaction and understanding were confirmed in the training which was conducted in six venues in November 2011, as follows:</p> <ul style="list-style-type: none"> • Level of satisfaction ¹ : The average satisfaction level of participants was more than 4.0 out of a 5-scale evaluation. • Level of understanding: The Project asked the following two questions to the participants on the last day of the training in 2011: "What is the teaching method which supports children's development?", and "What is <i>Kyozai Kenkyu</i>?" <p>Fifteen percent (11 out of 74) answered the first question correctly, while 40% (86 out of 217) answered the second question correctly.</p>	<p>The levels of satisfaction and understanding were confirmed in the training which was conducted in six venues in November 2012, as follows:</p> <ul style="list-style-type: none"> • Level of satisfaction : The average satisfaction level of participants was more than 3.9 out of a 5-scale evaluation. On the contrary to the training conducted in 2011, the level of satisfaction did not decrease until the last day of the training. • Level of understanding : In 2012, the following questions were asked on the first day and on the last day of the training: "What is the teaching method which support children's development?", "What is Lesson Study?", and "What is <i>Kyozai Kenkyu</i>?" <p>The level of understanding is improved, when comparing the answers in the first day and the last day.</p>
	2) Training participants' behavior was positively changed.	<ul style="list-style-type: none"> • There are 476 out of 747 schools (64%) in the country which conducted Lesson Study at least once in 2011/2012. • There are 19 out of 21 <i>aimags</i> which conducted Training on the Teaching Methods in 2011/2012. • Each <i>aimag</i> established "<i>aimag</i> teams". 	<ul style="list-style-type: none"> • There are 487 out of 752 schools (65%) in the country which conducted Lesson Study at least twice in 2012/2013. • Sixteen <i>aimags</i> and UB City's DE conducted the Training on the Teaching Methods in 2012/2013.
	3) District/ <i>aimag</i> team members attended the training based on the training package (for at least eight subjects).	<ul style="list-style-type: none"> • At least 11 participants from 20 <i>aimags</i> and nine districts except Arkhangai attended the training targeting all districts/<i>aimag</i> teams held in 2011. 	<ul style="list-style-type: none"> • The training was arranged separately for Arkhangai <i>Aimag</i> Team due to a traffic accident on their way to the training venue. • Ten participants from 20 <i>aimags</i> and nine districts attended the training conducted in 2012.
Output 2 : Models of Lesson Study are developed in model districts/ <i>aimags</i> .	1) Model schools developed the Lesson Study implementation plan.	Since 2010, all model schools formulated the Lesson Study implementation plan.	In 2012/2013, all model schools formulated the Lesson Study implementation plan.
	2) Model schools conduct Lesson Study at least twice	In 2011/2012, 8 out of 14 model schools conducted Lesson Study	In 2012/2013, 13 out of 14 model schools conducted

¹ The following questions were asked to the participants: (1) Are the contents and the objectives consistent? (2) Are the lectures easy to understand? (3) Is the time allocation/management effective? (4) Are the balance between lecture and practice adequate? (5) Are the handouts and venue arrangement adequate?

	a year for the eight subjects.	twice for the eight subjects.	Lesson Study twice for the eight subjects. The remaining school is the smallest model school.	
	3) Quality of Lesson Study at model schools is improved.	Refer to Attachment 5.		
	4) Satisfaction level of participants in Lesson Study at model schools increased.	<ul style="list-style-type: none"> • Model schools in Songino Khairkhan District : Out of 81 teachers who participated in the Lesson Study, only 20% of them have been satisfied with the Lesson Study in 2010, while 53% of them were satisfied in 2012. • Model schools in Bulgan <i>Aimag</i> : Out of 73 teachers who participated in the Lesson Study, only 25% of them have been satisfied with the Lesson Study in 2010, while 58% of them replied that they were very satisfied in 2012. • Model schools in Zavkhan <i>Aimag</i>: Out of 129 teachers who participated in the Lesson Study, only 26% of them have been satisfied with the Lesson Study in 2010, while 67% of them replied that they were very satisfied in 2012. 		
Output 3 : Capacities of schools in model districts/ <i>aimags</i> to practice the Teaching Methods are enhanced.	1) Seventy percent of teachers and administrators at all schools in model districts/ <i>aimags</i> completed the Training on the Teaching Method based on the training package.	In 2011/2012, the number of personnel who completed the Training on the Teaching Method: <ul style="list-style-type: none"> • Songino Khairkhan District : School management - 74, and teachers - 1,080 out of 1,493 (72%) • Bulgan <i>Aimag</i> : 550 out of 724 (76%) • Zavkhan <i>Aimag</i> : School management - 58 out of 72 (81%), and teachers - 639 out of 885 (72%) 	In 2012/2013, the number of personnel who completed the Training on the Teaching Method: <ul style="list-style-type: none"> • Songino Khairkhan District : Data not available • Bulgan <i>Aimag</i>: Accumulated number is 889 • Zavkhan <i>Aimag</i>: Accumulated number is 2,339 	
	2) Eighty percent of all schools in model districts/ <i>aimags</i> formulated the Lesson Study implementation plan.	The Lesson Study implementation plan was formulated in all schools in model districts/ <i>aimags</i> , except the four schools in Bulgan <i>Aimag</i> . Instead of conducting Lesson Study at their own schools, the teachers of the four schools, which are located in a “ <i>bag</i> ” (a subunit of “ <i>sum</i> ”), participated in the research lessons conducted in neighboring schools in 2011/2012.	In 2012/2013, all schools formulated the Lesson Study implementation plan.	
	3) Lessons learnt and recommendations on the improvement of teaching methods are collected from the model districts/ <i>aimags</i> .	The “Management Handbook for Teaching Method Dissemination” and the “Module for School Administrators”, which are a compilation of the lessons learnt and recommendations on the improvement of teaching methods, were being developed at the time of the terminal evaluation.	The “Management Handbook for Teaching Method Dissemination”, and the “Module for School Administrators”, which are a compilation of the lessons learnt and recommendations on the improvement of teaching methods were developed.	
Output 4 : The environment to disseminate and establish the	1) The Teaching Methods in the Training Package are introduced to PRESET.	<ul style="list-style-type: none"> • In the National University of Mongolia’s Chemistry/Chemical Engineering Department, and Physics/Electronic Engineering Department, the “Lesson Study Method” was taught. 	<ul style="list-style-type: none"> • In the National University of Mongolia’s Chemistry/Chemical Engineering Department, Physics/Electronic Engineering Department, and 	

Teaching Methods in PRESET is improved.		<ul style="list-style-type: none"> The “Module for Teacher Education Institutions” was being developed at the time of the terminal evaluation 	Department of Geology/Geography, the “Lesson Study Method” was taught. <ul style="list-style-type: none"> The “Module for Teacher Education Institutions”, which can be utilized in delivering the subject on Lesson Study at the teacher education institution, was developed.
	2) Policy recommendation is adopted by the MES in its annual policy objectives.	The implementation of Lesson Study was incorporated in the 2010/2011 objectives of the MES. The objectives included are “All teachers study the methods to conduct Lesson Study”, and “Each school formulates the Lesson Study implementation plan, and conduct it more than twice in an academic year”.	/

As examined above, the project purpose and the outputs were mostly achieved within the original project period. However, as the project duration was extended, the “Systems to disseminate the Teaching Methods nationwide” (Project Purpose) were further strengthened with the six months. It can be also assumed that “the child-centered teaching methods are implemented in the model and other districts/*aimags*” (Overall Goal) will be achieved within three to five years after the project period.

The following factors contributed to the above achievements: (1) GOM/MES education reform, emphasizing “each child’s development”, (2) Establishment of the ITPD encouraged the shift to the teaching method, which supports children’s development through provision of in-service teacher training, and (3) as the project duration was extended, it was made possible to see the efforts of the model schools for the two full academic years (2011/2012 and 2012/2013).

After the termination of the Project, the MES is expected to continue strengthening the system of teaching method improvement utilizing the Lesson Study and to improve teachers’ professional capacity and professionalism considering the appointment of specialists and teacher’s evaluation.

Project for Strengthening Systems for Improving and
Disseminating Child-Centered Teaching Methods
Final Report

Table of contents

Map of Mongolia with Project Input	
Photographs of Project Activities	
Abbreviation	
Summary	
Chapter 1 Background and Project Outline	1
1.1 Background	1
1.2 Project Outline	1
1.3 Progress of Education Reform in Mongolia.....	2
Chapter 2 Achievement of the Project	5
2.1 Project Purpose	5
2.2 Outputs.....	7
(1) Output 1.....	7
(2) Output 2.....	10
(3) Output 3.....	12
(4) Output 4.....	13
2.3 Overall Goal.....	15
2.4 Super Goal	16
Chapter 3 Implementation Process	17
3.1 The First Year (March 2010 to March 2011)	17
(1) Planning the Project Implementation	17
(2) Establishment of the Project Implementation Structure	17
(3) Implementation of Training in Japan.....	17
(4) Activities related with Output 1	17
(5) Activities related with Output 2	19
(6) Activities related with Output 4	20
3.2 The Second Year (April 2011 to December 2011).....	20
(1) Implementation of Training in Japan.....	20
(2) Activities related with Output 1.....	21
(3) Activities related with Output 2	22
(4) Activities related with Output 3	23
(5) Activities related with Output 4	24

3.3	The Third Year (February 2012 to January 2013)	24
(1)	Implementation of Training in Japan	24
(2)	The Technical Exchange with the JICA Project in Indonesia	24
(3)	Activities related with Output 1	25
(4)	Activities related with Output 2	27
(5)	Activities related with Output 3	28
(6)	Activities related with Output 4	30
(7)	Other Activities	30
3.4	The Third Year (March 2013 to August 2013)	31
(1)	Implementation of Training in Japan	31
(2)	Technical Assistance for Formulation of INSET Implementation Plan	31
(3)	Technical Assistance for ITPD	31
(4)	The First Lesson Study Conference/Experience Sharing Workshop	31
(5)	Activities related with Output 1	32
(6)	Activities related with Output 2	33
(7)	Activities related with Output 4	33
Chapter 4	Other Related Issues	35
4.1	Joint Coordinating Committee	35
(1)	First Joint Coordinating Committee Meeting	35
(2)	Second Joint Coordinating Committee Meeting	35
(3)	Third Joint Coordinating Committee Meeting	37
(4)	Fourth Joint Coordinating Committee Meeting	38
4.2	Baseline Survey and Endline Survey	38
(1)	Baseline Survey	38
(2)	Endline Survey	39
4.3	Public Relations	40
(1)	Website	40
(2)	Newsletter	40
(3)	Newspaper	41
4.4	Collaboration with Other JICA Cooperation Schemes and Other Development Partners	41
(1)	Collaboration with JICA Volunteers	41
(2)	Collaboration with Other JICA Schemes	42
(3)	Collaboration with Other Development Partners	42
Chapter 5	Tips for an Effective Project Implementation and Recommendations to the Mongolian Side	43
5.1	Tips for an Effective Project Implementation	43
(1)	Arrangement Made at the Model Districts/ <i>Aimags</i> for Dissemination of the Teaching	

Methods	43
(2) Arrangement Made for Dissemination of Teaching Methods Nationwide.....	44
5.2 Recommendations to the Mongolia Side	45
(1) Recommendation to Improve the Teacher’s Profession	45
(2) Recommendations to Upgrade Teacher’s Professionalism.....	48
Chapter 6 Inputs to the Project.....	49
6.1 Project Experts.....	49
6.2 Equipment.....	49
6.3 Training Abroad (Japan and Indonesia)	49
6.4 Reports and Training Package.....	52

Attachments:

1. List of Professional Team Members
2. List of Lesson Study Experts, Advisors, and Trainers certified by the Project and ITPD
3. List of Regional Lesson Study Trainers certified by the Project and ITPD
4. Lesson Quality
5. Lesson Study Implementation Quality
6. Minutes of Meetings on Joint Coordinating Committee
7. Project Design Matrix
8. Plan of Operation
9. Assignment Records of Experts
10. List of Equipment

List of Charts:

Chart1-1: Logic of the Project	2
Chart3-1: The structure of website on Lesson Study	27

List of Tables:

Table S-1: Achievement of the Project	S-2
Table 1-1: Narrative Summary of the Project	1
Table 1-2: Major Changes due to Revision of the Law	4
Table 2-1: Number of Schools in the Model Districts/ <i>Aimags</i> which Conducted Lesson Study at	

Least Twice	6
Table 2-2: Level of Satisfaciton of the Training in 2011 (5 days average)	7
Table 2-3: Level of Satisfaciton of the Training in 2012 (4 days average)	8
Table 2-4: Level of Understanding of the Training in 2012.....	8
Table 2-5: Number of Implemented Lesson Study at Model Schools	10
Table 2-6: The Number of Personnel Completed the Training	12
Table 2-7: Schools formulated Lesson Study Implemenation Plan	12
Table 2-8: Syllabus of Lecture	13
Table 2-9: Syllabus of Seminar	14
Table 3-1: Model Schools	17
Table 3-2: Structure of Training Package in the First Year	17
Table 3-3: Outline of the Training Conducted in Songino Khairkhan District, UB.....	18
Table 3-4: Outline of the Training Conducted in Bulgan <i>Aimag</i>	18
Table 3-5: Outline of the Training Conducted in Zavkhan <i>Aimag</i>	19
Table 3-6: Technical Assistance for all Districts/ <i>Aimag</i>	19
Table 3-7: Outline of the first Lesson Study Monitoring	20
Table 3-8: Structure of Training Package	21
Table 3-9: Outline of the training.....	21
Table 3-10 : Technical Assistance to District/ <i>Aimags</i>	22
Table 3-11: Outline of the Second Lesson Study Monitoring.....	22
Table 3-12: The Training Conducted by Model Schools in the Second Year	23
Table 3-13: Outline of the Training.....	26
Table 3-14: Technical Assistance for non-model District/ <i>Aimags</i>	26
Table 3-15: Technical Assistance for non-model District/ <i>Aimags</i>	27
Table 3-16: Outline of the third Lesson Study Monitoring.....	28
Table 3-17: Outline of the forth Lesson Study Monitoring.....	28
Table 3-18: Training for non-model Schools in Songino Khairkhan District	29
Table 3-19: Training for non-model Schools in Bulgan <i>Aimag</i>	29
Table 3-20: Training for non-model Schools in Zavkhan <i>Aimag</i>	29
Table 3-21: Provision of Blackboards.....	30
Table 3-22: Outlines of Training Courses in Japan.....	31
Table 3-23: Contents of Primary Mathematics Seminar	32
Table 3-24: “Teacher Newspaper”	32
Table 3-25: Outline of the Fifth Lesson Study Monitoring.....	33
Table 4-1: Recommendations and the Project Measures	35
Table 4-2: Revisions of the Project Design Matrix.....	36

Table 4-3: Survey Areas.....	38
Table 4-4: Newsletter.....	41
Table 4-5: Collaboration with JICA Volunteers.....	41
Table 6-1: Project Experts.....	49
Table 6-2: List of Trainees in the First Year Training in Japan.....	49
Table 6-3: List of Trainees in the Second Year Training in Japan.....	50
Table 6-4: List of Trainees in the Third Year Training in Japan.....	50
Table 6-5: List of Trainees in the Third Year’s Educational System Training.....	51
Table 6-6: List of Trainees in the Third Year Teacher Training Practice.....	51
Table 6-7: List of Participants in the Technical Exchange Program.....	51
Table 6-8: List of Prepared Reports and Training Package.....	52

Chapter 1 Background and Project Outline

1.1 Background

The Government of Mongolia (hereinafter referred to as GOM) introduced the new education standard in 2005 within the framework of the education sector reform. The reform includes the shifting from a 10-year basic education system to a 12-year education system, lowering the school entry age from eight to six years, and introducing new subjects, such as Integrated Studies and Integrated Science.

In accordance with the new education standard, the teaching methods were also expected to change from conventional teacher-centered to student-centered ones. However, at the school level, it was difficult to implement the new education standard because its contents are rather academic and difficult for teachers to put into practice.

To address these challenges, “The Project on Teaching Methods Improvement towards Children’s Development” (hereinafter referred to as Phase I) was implemented from 2006 to 2009 under the cooperation of the Japan International Cooperation Agency (JICA) and the Ministry of Education and Science (hereinafter referred to as MES). Through Phase I, 27 teachers’ guidebooks were developed and distributed to schools nationwide.

As the next step, it was considered necessary to disseminate the teaching methods that were developed during Phase I. In response to the request from GOM, JICA implemented the “Project for Strengthening Systems for Improving Child-Centered Teaching Methods” (hereinafter referred to as the Project) in collaboration with the MES from March 2010.

1.2 Project Outline

The Project aimed at strengthening the system for disseminating the teaching method. The table below gives a narrative summary of the Project.

Table 1-1: Narrative Summary of the Project

Narrative Summary of the Project	
Super Goal	Learning achievement of primary and secondary students is enhanced.
Overall Goal	The child-centered teaching methods (hereinafter referred to as Teaching Methods) are implemented in model and other districts/ <i>aimags</i> .
Project Purpose	Systems to disseminate the Teaching Methods nationwide are strengthened.
Output 1	Capacities of district/ <i>aimag</i> teams* in all districts/ <i>aimags</i> to disseminate the Teaching Methods are enhanced. *The district/ <i>aimag</i> team is composed of specialists, school administrators, and teachers.
Output 2	Models of Lesson Study are developed in model districts/ <i>aimags</i> .
Output 3	Capacities of schools in model district/ <i>aimags</i> on practicing the Teaching Methods are enhanced.
Output 4	The environment to disseminate and establishing the Teaching Methods in PRESET is improved.

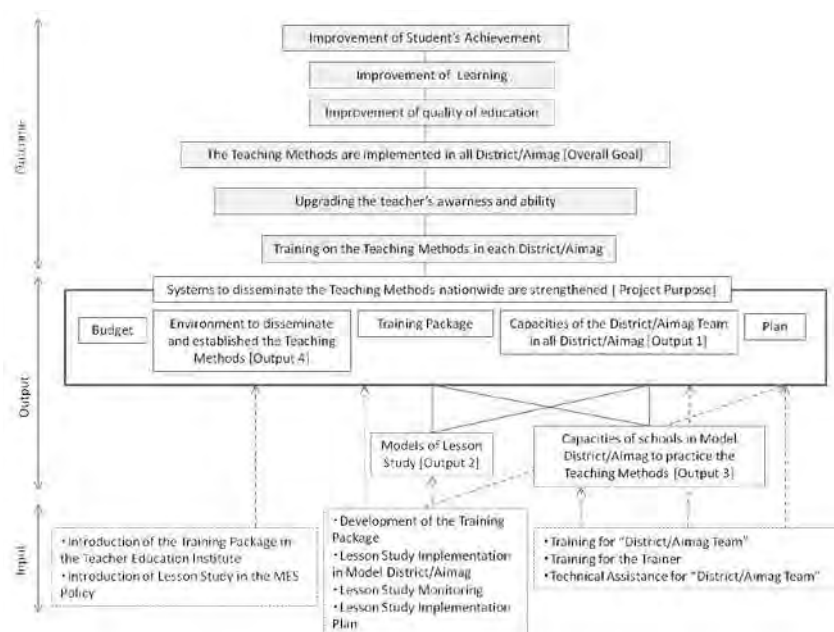


Chart 1-1: Logic of the Project

Project Duration :

The Project duration was from March 2010 to August 2013 (three years and six months).

The Project was supposed to be terminated at the end of February 2013. However, following the request from the MES, the Project was extended until the end of August 2013. The Project's activities and outputs will be taken over by the Institute of Teacher's Professional Development (hereinafter referred to as ITPD).

Mongolian Counterpart Personnel :

- Project Director: Vice Minister, MES
- Project Manager: Director, General Education Department, MES
- Project Coordinator (Policy): Senior Expert, General Education Department, MES, then Director, Division of Basic and Secondary Education, Strategy, Policy Implementation since September 2012
- Project Coordinator (Budget): Director, Finance Department, MES
- Team Coordinator: Senior Expert, Institute of Education
- Project Coordinator (Implementation): Three coordinators were appointed by the MES during the project period.
- National Team: The National Team consisted of 13 people including Project Director, Project Manager, Project Coordinators, and several university professors. However, the National Team did not function. As mentioned below, the Professional Team was organized and played such important roles as developers of the Training Package, and as lecturers of the training conducted within the framework of the Project.
- Professional Team: The Professional Team consists of university teachers and school teachers who were actively involved in Phase I. They were nominated by the MES Minister's Order No. 575 on 15 December 2010. The members were divided into nine groups: eight subject groups and one group in charge of school administrators.

1.3 Progress of Education Reform in Mongolia

The following are the initiatives that had major impacts on the Project:

(1) Development of New Primary and Secondary Education Standards

In Mongolia, the standard was supposed to be developed every five years. In April 2011, GOM signed an agreement with Cambridge University International Examination on the improvement of the standard and curriculum.

According to the plan, the curriculum of five subjects targeting grades 1 to 11 will be developed by the 2013/2014 academic year. The new curriculum will be tried in three laboratory schools where English is being used as the medium of instruction, and in 31 schools² (one from 21 *aimags*, and nine districts of UB).

The curriculum is designed to equip students with problem solving capability. Thus, there is no discrepancy between the Project and the University of Cambridge International Examinations.

In addition to the 34 laboratory schools, seven schools³ (four in the city, and three in “*sum*”) were added to try the new curriculum.

(2) Revision of Laws Related to Education

On 9 May 2012, the Education Law and the Primary and Secondary Education Law were revised. The following table presents the major changes.

² Four Model Schools (School No. 45 in UB, School No. 4 in Selenge, Khan-uul Complex School in Dornod, and Chandmani-Erdene Complex School in Zavkhan) of the Project were included.

³ Three Model Schools (School No. 12 in UB, Khishig-Undur *Sum* School of Bulgan, and Tosontsengel *Sum* School No.1) of the Project were added.

Table 1-2: Major Changes due to Revision of the Law

Education Law	Primary and Secondary Education Law
<ul style="list-style-type: none"> • Arrangement for introducing Cambridge International Examinations (international schools, definition of laboratory schools) • Establishment of ITPD • Establishment or restructuring of the Education Evaluation Center • Provision of land for schools 	<ul style="list-style-type: none"> • Introduction of 5-4-3 year education • Arrangement for introducing Cambridge International Examinations

The establishment of the ITPD has significant impact on the Project. It contributed a lot to the Project Purpose, which is “strengthening systems for improving and disseminating child-centered teaching methods”.

The ITPD collaborated with the Project in various ways. Specialists from the ITPD participated in training and monitoring activities, and jointly organized the first conference on Lesson Study in Mongolia.

In the ITPD’s national training program for teachers with five years of experience, Lesson Study was introduced. The collaboration with the Project for six months strengthened the capacity of the ITPD specialists.

(3) Beginning of the New Education Reform

The new government was established in August 2012. The new government initiated the program called “the right Mongolian child”. Under this program, the MES plans to improve the quality of education. The MES has a policy called “each child’s development”. The MES has six priority areas: (1) Standard/curriculum development, (2) Textbook and school environment, (3) Evaluation, (4) Teacher education, (5) In-service teacher training, and (6) Education administration.

Lesson Study adopted in the Project supports teachers’ skills, and enables to see the changes of children. The Project is consistent with the MES policy.

Chapter 2 Achievement of the Project

In this chapter, the achievements of the Project Purpose and the Outputs are examined, and foresee the Overall Goal and the Super Goal as “the learning achievement of primary and secondary students is enhanced”.

The Project Purpose and the Outputs were mostly achieved within the Project’s original period (from March 2010 to February 2012). However, as the project duration was extended, the “systems to disseminate the Teaching Methods nationwide” (Project Purpose) were further strengthened during the six months.

With regard to the Overall Goal, it should be noted that 487 out of 752 schools (about 65%) in the country conducted Lesson Study at least twice in 2012/2013, and 16 *aimags* and the UB City’s Department of Education (hereinafter referred to as DE) conducted the training on Lesson Study in 2012/2013.

The achievements of the Project Purpose, Outputs 1 to 4, the Overall Goal and the Super Goal are discussed below.

2.1 Project Purpose: Systems to Disseminate the Teaching Methods Nationwide are Strengthened

The achievement of the Project Purpose was examined by the quality improvement of lessons in model schools, the implementation of Lesson Study, the formulation of the training plan on the Teaching Methods, and the commitment by the MES.

Indicator 1: The quality of lessons utilizing the Teaching Methods for the eight subjects are practiced in the model schools.

The Professional Team evaluated the quality of lessons taught in the model schools through Lesson Study monitoring. During the fourth monitoring conducted from September to October 2012, a comparison between the quality of lessons in 2011 and 2012 was made.

The Project Team provided the points of view for the lesson monitoring as (1) whether the teaching material (*kyozai*) is appropriate, (2) whether the composition of lesson is appropriate, (3) whether questions are appropriate, (4) whether the instruction is appropriate, and (5) the reaction of students. Based on these points, the Professional Team members evaluated the quality of research lessons in the model schools.

Since the quality of lessons was improved in the eight subjects, the first indicator was achieved. However, there is no end in lesson quality improvement. The following points should be paid attention to in further practice:

- Some research lessons had introductions, such as through a riddle or a puzzle, which are unrelated to the lesson’s contents. The introduction of a lesson must rouse student’s interest with the contents.
- In some research lessons, the students conducted the experiment by simply following the printed instruction. Teachers should let students understand the purpose of the experiment, assume the results, and examine the results.
- Some research lessons gave the contents which students had already known well, and such lessons did not encourage students to think on their own. Teachers should understand their students and plan the lesson objectives based on them.
- To understand students, teachers can ask students to write their description of a lesson’s impression and take notes on the conditions of each student on the class seat plan.

Indicator 2: Lesson Study is conducted at least twice in at least 70% of schools in the model districts/*aimags*.

In 2011/2012, all schools in Songino Khaikhan District and Zavkhan *Aimag*, and 18 out of 23 schools in Bulgan *Aimag* conducted Lesson Study at least twice.

Table 2-1: Number of Schools in the Model Districts/*Aimags* which Conducted Lesson Study at Least Twice

Model District/ <i>Aimag</i>	No. of Schools	2011/2012 as of September 2012		2012/2013 as of August 2013		Note
Songino Khaikhan	13	13	100%	13	13	
Bulgan <i>Aimag</i>	23	18	78%	16	70%	There are three schools in a <i>bag</i> (under a <i>sum</i>) and two schools in a small <i>sum</i> . The teachers of these schools joined Lesson Study in neighbouring schools.
Zavkhan <i>Aimag</i>	29	29	100%	29	100%	

As examined above, the second indicator was achieved.

The instruction of the DE contributed the dissemination of Lesson Study in the model districts/*aimags*. At the same time, the activities of model schools toward non-model schools encouraged such schools to conduct Lesson Study in their own school.

Indicator 3: All districts/*aimags* formulated the training plan for the Teaching Methods.

All districts and *aimags* formulated their training plans both in 2011/2012 and in 2012/2013.

During the training for the district/*aimag* teams in all districts/*aimags* in November 2011, all districts/*aimags* except Bagakhangai District and Arkhangai *Aimag* formulated their training plans. As for Bagakhangai District, the training plan was submitted after the training, while Arkhangai *Aimag* formulated its plan during the training targeting the Arkhangai *Aimag* Team.

All districts and *aimags* formulated their training plans during the training in 2012 as well.

Indicator 4 : Political, financial, and human resources commitments are made by the MES.

The MES issued many directives and instructions related to the Project. Among these, the following directly contributed to strengthening systems for disseminating the Teaching Methods:

- 2011.9.9 Instruction of Director of General Education No. 3/4973, *Reducing the Burden of Professional Team Members*
- 2012.1.18 MES Minister's Order No. 24, *Implementation of Training to Improve Teachers' Professional capacity*
- 2012.1.31 Instruction of Director of General Education No. 3/427, *Implementation of PRESET to Improve Professional Capacity of Teachers at Teacher Education Institutions*
- 2012.9.10 MES Minister's Order A-13 *Implementation of Training in Non-model Aimags*
- The ITPD formulated their training plan. Lesson Study was included in its "Basic Training".

In addition to the above, the Administrator Team in the Professional Team reviewed the directives and instructions of GOM/MES and found out that some could be considered as the supporting factors of Lesson Study implementation in schools. The Administrator Team encouraged the teachers to conduct Lesson Study as part of their original assignment.

At the same time, the Government Ordinance No. 239 in 2010 and No. 148 in 2010 were issued to improve the treatment of public servants including teachers. It also provided positive influence towards the Project.

In addition, the regulations on teacher's evaluation, qualification, training and student's achievement were supposed to be approved in August 2013. According to these regulations, students will be evaluated in five fields: (1) morality, (2) knowledge and skills, (3) talent (interest), (4) learning satisfaction, and (5) lifestyle. Teachers will be required to set the targets for each student and do the self-evaluation based on such targets. Principals and parents will organize an evaluation committee and examine the difference between the results of the student's evaluation and the teacher's self-evaluation. The teacher who achieves more than 70% of the target will obtain a bonus. These regulations focus on children more than previous ones, and contribute to strengthening systems for the dissemination of the Teaching Methods.

As discussed above, the fourth indicator was achieved. However, new regulations have some subjective criteria, and the detailed and concrete rules are required to prevent confusion at the school level.

To conclude, the Project Purpose was achieved.

2.2 Outputs

The achievement of the Outputs were as shown below.

(1) Output 1: Capacities of district/*aimag* team in all district/*aimags* to disseminate the Teaching Methods are enhanced.

Indicator 1: Trainign participants increase their satisfaction and understanding.

1) Level of satisfaction

The Project asked the following five questions to the participants of the training for district/*aimag* teams in all district/*aimag* in 6 venues: (1) Are the content and the objective consistent? (2) Are the lectures easy to understand? (3) Is the time allocation/management effective? (4) Are the balance between lecture and practice adequate? (5) Are the handouts and venue arrangement adequate?

The average satisfaction level of each question in November 2011 was as shown in the table below.

Table 2-2: Level of Satisfaciton of the Training in 2011 (5 days average)

Venue	(1) Content and the objective	(2) Lecture	(3) Time allocation / management	(4) Lecture and practice	(5) Handouts and venue
Songino Khairkhan	4.35	4.30	4.30	4.29	4.31
Bayanzurkh	4.48	4.47	4.31	4.52	4.07
Bulgan	4.40	4.45	4.50	4.43	4.50
Zavkhan	4.47	4.50	4.49	4.45	4.51
Selenge	4.72	4.76	4.73	4.70	4.79
Dornod	4.48	4.47	4.31	4.52	4.07

The average satisfaction level was more than 4.0 out of a five-scale evaluation in 2011.

However, if we see the transition of satisfaction level for 5 days, the last day's satisfaction was decreased significantly. It shows that the fourth day when the research lesson was conducted was the climax of the training, however the participants' interest and concentration were not continued till the last day.

The average satisfaction level of each question in November 2012 was as shown in the table below.

Table 2-3: Level of Satisfaction of the Training in 2012 (4 days average)

Venue	(1) Content and the objective	(2) Lecture	(3) Time allocation / management	(4) Lecture and practice	(5) Handouts and venue
Songino Khairkhan	4.23	4.19	3.90	3.91	4.02
Bayanzurkh	4.58	4.55	4.55	4.53	4.28
Bulgan	4.65	4.58	4.55	4.50	4.55
Zavkhan	4.73	4.73	4.55	4.63	4.63
Selenge	4.63	4.63	4.63	4.53	4.55
Dornod	4.75	4.78	4.68	4.65	4.65

All training except the training held in Songino Khairkhan District in 2012 marked higher satisfaction level than 2011. Though the Project planned to accept the same personnel as the participants in 2011 and 2012, the invitation of participants in Songino Khairkhan District was difficult because of the imminent election. The lower satisfaction level of the training in Songino Khairkhan District was caused by the lower readiness of the participants who did not have knowledge and understanding on the Lesson Study before the training.

On the contrary to the training in 2011, the level of satisfaction did not decrease until the last day of the training. The shorten training period (from 5 days to 4 days) made the training more substantial.

2) Level of understanding

The Project asked the following two questions to the participants of the training in 6 venues on the last day of training in 2011: (1) What is the teaching method which supports children's development? and (2) What is *Kyozai Kenkyu*? Fifteen percent (11 out of 74) answered the 1st question correctly, while 40% (86 out of 217) answered the 2nd question correctly.

In 2012, the following questions were asked on the first day and the last day of the training: (1) What is the teaching method which supports children's development? (2) What is Lesson Study? and (3) What is *Kyozai Kenkyu*?

The percentages of correct answer were as shown in the table below.

Table 2-4: Level of Understanding of the Training in 2012

Venue	(1) The Teaching Methods		(2) Lesson Study		(3) <i>Kyozai Kenkyu</i>	
	First day	Last day	First day	Last day	First day	Last day
Songino Khairkhan	17/90 (19%)	20/82 (20%)	14/90 (16%)	26/82 (32%)	15/90 (17%)	20/82 (24%)
Bayanzurkh	32/77 (42%)	22/64 (34%)	18/77 (23%)	12/64 (19%)	18/77 (23%)	9/64 (14%)
Bulgan	33/80 (41%)	33/66 (50%)	17/80 (21%)	23/66 (35%)	17/80 (21%)	22/66 (32%)
Zavkhan	24/60 (40%)	35/77 (45%)	11/60 (18%)	16/77 (21%)	14/60 (23%)	16/77 (21%)
Selenge	31/74 (42%)	37/65 (57%)	9/74 (12%)	19/65 (29%)	8/74 (11%)	12/65 (18%)
Dornod	20/81 (25%)	32/75 (43%)	12/81 (15%)	14/75 (19%)	2/81 (2%)	14/75 (19%)

The understanding level on "What is the teaching method which supports children's

development?" was improved in 2012, since the training contents were revised based on the lessons learnt in 2011.

Indicator 2: Training Participants' behavior is positively changed.

During the Lesson Study Report Meeting on 3-4 June 2012, the following changes were reported.

- There are 476 out of 747 schools (64%) in the country which conducted Lesson Study at least once in 2011/2012.
- There are 19 out of 21 *Aimags* conducted training on the Teaching Method in 2011/2012.
- Each *aimag* established "aimag team"

During "the 1st Lesson Study Conference" on 15-16 August 2013, the following situation was confirmed.

- There are 487 out of 752 schools (65%) in the country which conducted Lesson Study at least twice in 2012/2013.
- Sixteen *aimags* and UB City's DE conducted the training on the Teaching Methods in 2012/2013. Total of 14,932 teachers participated in these training. (The total number of teachers in Mongolia is 26,492.) 10 *aimags* had already developed the Lesson Study implementation plan for 2013/2014.

Indicator 3: District/*aimag* team members attended the training based on the Training Package (for at least eight subjects).

At least 11 participants from 21 *aimags* and 9 districts except Arkhangai attended the training for the district/*aimag* teams in all districts/*aimags* held in 2011.

The training was arranged separately for Arkhangai *Aimag* Team on 15-17 March 2012, due to the traffic accident on their way to training venue. 53 teachers attended the training.

Ten participants from 20 *aimags* and 9 districts attended the training conducted in 2012.

The achievement of Indicator 2 showed how the training participants actively implemented Lesson Study as "aimag team" in their own *aimag*. Indicator 3 shows that each district/*aimag* made more than 8 personnel attend the training based on the Training Package.

As shown in the above 3 indicators, Output 1 was achieved.

(2) Output 2: Model of Lesson Study are developed in model district/*aimags*.

Indicator 1: Model schools develop the Lesson Study implementation plan.

Since 2010, all model schools formulated the Lesson Study implementation plan.

Indicator 2: Model schools conduct Lesson Study at least twice a year for the eight subjects.

The implementation of Lesson Study in model schools was as shown in the table below.

Table 2-5: Number of Implemented Lesson Study at Model Schools

School	2010/2011										2011/2012										2012/2013													
	Phy	Chem	H&E	H&N	PM	SM	IT	IS	0	Once	Twice	Phy	Chem	H&E	H&N	PM	SM	IT	IS	0	Once	Twice	Phy	Chem	H&E	H&N	PM	SM	IT	IS	0	Once	Twice	
Ulaanbaatar																																		
Ireedui Complex School	1	1	1	1	1	1	1	2	0	7	1	2	3	3	4	4	3	3	4	0	0	8	3	3	3	3	3	3	3	3	0	0	8	
School No.12	2	2	4	3	1	3	1	0	3	5	13	12	8	8	10	12	12	12	0	0	8	3	3	3	3	4	3	3	4	0	0	8		
School No.67	2	2	2	2	2	1	6	0	1	7	4	4	5	5	60	4	5	5	0	0	8	3	2	4	4	4	4	4	3	2	0	0	8	
Bayan-Aimags																																		
School No.12	2	2	3	2	2	3	1	3	0	1	7	4	3	3	2	3	4	2	4	0	0	8	3	4	4	3	2	2	2	3	0	0	8	
Hidag-Uudur Sum School	2	3	4	3	1	2	1	2	0	2	6	2	2	4	4	4	2	3	0	0	8	4	3	3	4	3	5	2	4	0	0	8		
Khataj-Uudur Sum School	0	3	0	3	3	2	1	8	2	1	5	2	4	2	2	3	0	0	8	4	3	4	3	3	3	3	3	3	0	0	8			
Selenge Sum School	3	0	2	1	3	1	6	6	1	2	5	0	3	3	5	2	2	1	2	1	1	6	3	3	4	4	3	3	2	4	0	0	8	
Govsanbulag Sum School	2	2	3	4	3	1	1	1	0	3	5	3	4	3	3	4	4	3	3	0	0	8	3	3	2	2	2	2	3	0	0	8		
Zavkhan-Aimags																																		
Chandmani-Erdene Complex School	3	2	2	2	3	1	2	2	0	1	7	6	6	4	3	4	4	4	0	0	8	3	3	3	3	3	3	3	8	4	3	0	0	8
Tonotsengel Sum School No.1	2	3	4	2	1	2	2	3	0	1	7	2	2	3	3	3	1	3	0	1	7	4	4	4	4	4	4	4	4	0	0	8		
Songino Sum School	1	2	2	2	1	1	1	2	0	4	4	4	1	2	2	2	2	3	2	0	1	7	3	3	2	3	5	3	3	3	0	0	8	
Bayantess Sum School	0	0	2	1	3	0	1	0	4	2	2	4	4	3	4	3	3	3	1	0	1	7	3	3	3	3	3	3	3	3	4	0	0	8
Zavkhanmural Sum School	2	2	1	2	4	3	2	2	0	1	7	1	3	4	2	3	3	1	1	0	3	5	3	4	3	4	3	3	1	3	0	1	7	
Shikantsei Sum School	1	0	0	1	3	1	0	1	3	4	1	1	3	2	3	3	2	2	2	0	1	7	3	3	3	3	3	3	3	3	0	0	8	

- In 2010/2011, no model schools conducted Lesson Study twice for the eight subjects.
- In 2011/2012, 8 out of 14 schools conducted Lesson Study twice for the eight subjects.
- In 2012/2013, 13 out of 14 schools conducted Lesson Study twice for the eight subjects.

Indicator 1 was achieved and Indicator 2 was also mostly achieved. The one school that was not able to conduct Lesson Study twice for the eight subjects is the smallest model school. The school had a difficulty in conducting IT research lesson. On the other hand, Ireedui Complex School in Songino Khaikhan District organized its 7 attached schools to conduct Lesson Study three times for the eight subject a year.

Indicator 3: Quality of Lesson Study at model schools is improved.

Quality of Lesson Study was assessed in the monitoring of model schools by the Professional Team members. The Lesson Study was assessed with the following three criteria: (1) lesson preparation, (2) lesson implementation, and (3) lesson review session.

Comparison was made between September 2012 and March/April 2013. The improvements were made in the three criteria. At the same time, some positive changes on Lesson Study management were observed during the monitoring in March/April 2013.

- Designate one day of the week as “Lesson Study” day. Fortnightly, the training manager make a presentation to teachers, teachers collectively conduct *Kyozai Kenkyu*.
- Several schools study about “blackboard management” and “instruction of note taking” .
- Teachers, who are not involved in developing a lesson plan, observe a research lesson and lesson review session. Such teachers make unique comments.
- Collaboration with neighboring schools was made in case there are few teachers of same subject in the school.
- Some lesson review session is conducted in a way that participants comment on the

worksheet given to them.

Indicator 4: Satisfaction level of participants in Lesson Study at model school increased.

A survey was conducted in September/October 2012. The question asked the teachers of model schools on the satisfaction level of Lesson Study in 2010 respectively, and in 2012.

Model schools in Songino Khairkhan District : Out of 81 teachers participated in Lesson Study, only 20% of them have been satisfied with the Lesson Study in 2010, while 53% of them were satisfied in 2012.

Model schools in Bulgan *Aimag* : Out of 73 teachers participated in Lesson Study, only 25% of them have been satisfied with the Lesson Study in 2010, while 58% of them replied that they were very satisfied in 2012.

Model schools in Zavkhan *Aimag*: Out of 129 teachers participated in Lesson Study, only 26% of them have been satisfied with the Lesson Study in 2010, while 67% of them replied that they were very satisfied in 2012.

Since the answers “Very satisfied” and “Satisfied” increased significantly, Indicator 4 was achieved.

As examined in the above 4 indicators, Output 2 was achieved. In addition to the degree of achievement of Output 2 by the 4 indicators, it was observed that the model of Lesson Study was being developed in Mongolia. The models are explained in the modules of “Modules for school administrators” and “Management Handbook for Teaching Method Dissemination.”

3 Models shown in “Management Handbook for Teaching Method Dissemination”

- Lesson Study intended to improve a specific teaching method: To conduct a research lesson in a school, then improve the lesson plan based on the suggestions made in the lesson review session. Then to conduct the lesson in a different class. This is effective for a school with many classes of the same grade.
- Lesson Study to share experience, continued use of a teaching method: Lesson Study to be conducted by teachers of several schools. It is effective for sharing experiences among teachers. Training managers will have a big role in coordination.
- Lesson Study to utilize the lesson plans used in the past: This Lesson Study can be implemented at school, by *aimag*, or at national level. However it is necessary to have a good report of Lesson Study.

School-Based Lesson Study Model of 14 Model Schools

14 model schools implemented Lesson Study for 3 years. Their practice improved in a following way:

- The first year: Except one school, every school started Lesson Study without setting any theme. Organization/committee for the Lesson Study was based on the eight subjects of the Project. Some schools utilized the existing Teaching Method Methodology Groups.
- The second year: Some schools set the theme for Lesson Study. Most common theme was “blackboard management” (5 schools). Organization/committee was organized into four groups, or four groups for primary teachers, and four groups for secondary school teachers, all teachers were organized into Lesson Study groups.
- The third year: Vague and general themes were changed to more concrete themes. Organization/committee was slightly modified. The Lesson Study on other subjects became more common.

(3) Output 3: Capacities of schools in Model District/Aimags to practice the Teaching Methods are enhanced.

Indicator 1: Seventy percent of teachers and administrators of all school in model district/aimags completed the training on the Teaching Methods based on the Training Package.

The number of personnel completed the training on the Teaching Methods based on the Training Package in model district/aimags was as shown in the table below.

Table 2-6: The Number of Personnel Completed the Training

Model district/aimag		2011/2012			2012/2013		
		As for September 2012			As for August 2013		
		Number	Completed	%	Number	Completed	%
Songino Khairkhan District	Administrator	N/A	74	N/A	113	N/A	N/A
	Teacher	1,493	1,080	72%	2,500	N/A	N/A
Bulgan Aimag	Administrator teacher	724	550	76%	572	889	-
Zavkhan Aimag	Administrator	72	58	81%	-	2,339	-
	Teacher	885	639	72%	885		

Indicator 2: Eighty percent of all schools in model district/aimags formulated the Lesson Study implementation plan.

In 2011/2012, All schools except the five schools in Bulgan Aimag, Lesson Study implementation plan was formulated.

In 2012/2013, all schools formulated Lesson Study implementation plan.

Table 2-7: Schools formulated Lesson Study Implementation Plan

Model district/aimag	No. of School	2011/2012		2012/2013		Note
		As for September 2012		As for August 2013		
Songino Khairkhan District	13	13	100%	13	100%	
Bulgan Aimag	23	19	83%	23	100%	There are 3 schools in <i>bag</i> (under <i>sum</i>) and 2 schools in small <i>sum</i> . The teachers of those schools joined Lesson Study in neighbouring schools.
Zavkhan Aimag	29	29	100%	29	100%	

Regarding Indicator 1, more than seventy percent of teachers and administrators participated in the training as of 2011/2012.

Indicator 2 was also achieved since more than eighty percent of all schools in model district/aimags formulated Lesson Study implementation plan.

Indicator 3: Lessons learnt and recommendation on the improvement of teaching methods are collected from the model district/aimags.

“Management Handbook for Teaching Method Dissemination” and “Module for School Administrators” which compiled the lessons learnt and recommendation on the improvement of teaching method were developed.

Lessons learnt from the experiences of the model district/aimag were compiled. Thus, the

indicator 3 was achieved. A case of how some model schools overcame the difficulty are shown below.

How some model schools overcame the difficulty	
1)	It is effective to utilize the time allocated for the teaching method study group as the time for conducting research lessons. It is necessary to reduce other duties in order to spare time for Lesson Study.
2)	It is useful to make every effort to allocate budget required for teaching materials to enable lesson with experiments.
3)	It is important to continue Lesson Study and to gain outputs
4)	It is important to agree on school objective, and to try to achieve objectives through Lesson Study.
5)	It is important to encourage participation of school administrators and specials of DE in Lesson Study.

As examined in the above 3 indicators, Output 3 was achieved.

(4) Output 4: The environment to disseminate and establish the Teaching Methods in PRESET is improved.

Indicator 1: The Teaching Methods in the Training Package are introduced to PRESET.
In the National University of Mongolia’s Chemistry/Chemical Engineering Department, Physics/Electronic Engineering Department, and Geology/Geography Department, the lesson named “Lesson Study Method” are taught.
“Module for Teacher Education Institutions” which can be utilized in deliverling the subject on the Lesson Study at the teacher education institution, was developed.

The seminars for teacher education institutions were organized twice in 2011 and in 2012. Many participants sited that it was difficult to develop a new subject because there were already many subjects, and the workload of teachers would increase. The Project then decided to present the concrete idea on new subject named “Lesson Study” as a part of Training package.

Structure of “Lesson Study” Subject		
This subject consists of 8 lectures and 16 seminars. Outline of lectures and seminars are given in the following tables.		
Table 2-8: Syllabus of Lecture		
Number of hours per week	Theme of Lecture	Contents
2 hours	1: Overview	<ul style="list-style-type: none"> • Education reform • Issues related to teacher’s professional development • Lesson Study and its development
2 hours	2: <i>Kyozai Kenkyu</i> 1	<ul style="list-style-type: none"> • Essence of <i>Kyozai Kenkyu</i> • Study on content • Study on teaching materials
2 hours	3: <i>Kyozai Kenkyu</i> 2	<ul style="list-style-type: none"> • Cognitive study on children • Study on teaching method
2 hours	4: <i>Kyozai Kenkyu</i> 3	<ul style="list-style-type: none"> • Study on evaluation
2 hours	5: How to reflect the outputs from <i>Kyozai Kenkyu</i> into lesson plan preparation	<ul style="list-style-type: none"> • Study on lesson plan • How to reflect the outputs from <i>Kyozai Kenkyu</i> into lesson plan

		preparation
2 hours	6: Lesson implementation and observation	<ul style="list-style-type: none"> • Lesson delivery technique • Lesson observation
2 hours	7: Lesson review session	<ul style="list-style-type: none"> • Lesson review session organization
2 hours	8: How to utilize the outputs of Lesson Study into teaching method improvement	<ul style="list-style-type: none"> • Improvement of lesson plan • Improvement of teaching materials

Table 2-9: Syllabus of Seminar

Number of hours per week	Theme of Lecture	Contents
2 hours	1: Legal/administrative framework on Lesson Study	<ul style="list-style-type: none"> • Teachers' tasks and Lesson Study • Teacher evaluation and Lesson Study
14 hours	2-7: <i>Kyozai Kenkyu</i>	<ul style="list-style-type: none"> • Research method on study content • Research method on teaching materials • Research method on cognition • Research method on teaching method • Research method on evaluation • Research method on a lesson and unit lessons
2 hours	8: <i>Kyozai Kenkyu</i> on one lesson	<ul style="list-style-type: none"> • Select one topic and prepare for the topic
2 hours	9: Preparation of a lesson plan	<ul style="list-style-type: none"> • Based on <i>Kyozai Kenkyu</i>, prepare a lesson plan
4 hours	10-11: Observation of lesson	<ul style="list-style-type: none"> • Observe lesson, on record, and collect data
2 hours	12-13: Lesson review session	<ul style="list-style-type: none"> • Conduct lesson review session • Analyze the sheet written in the session
4 hours	14-15: Improve the lesson plan of research lesson	<ul style="list-style-type: none"> • Improve the lesson plan of research lesson based on the lesson observation sheets and record of lesson review session
2 hours	16: Summarize what they have learned on Lesson Study	<ul style="list-style-type: none"> • The three steps of Lesson Study, Lesson Study and research lesson, and <i>Kyozai Kenkyu</i>

As examined above, indicator 1 was achieved. However, in order to set up a new subject, it is necessary to review the whole structure of curriculum. The MES is now reviewing the curriculum of teacher education institutions.

Indicator2: Policy recommendation is adopted by the MES in its annual policy objectives.

The implementation of Lesson Study was incorporated in the 2010/2011 objectives of the MES. The objectives included are “All teachers study teaching methods to conduct Lesson Study”, and “Each school formulates the Lesson Study implementation plan, and conduct it more than twice in an academic year.

Indicator 2 was achieved. The policy objectives supported the efforts of model schools while it encouraged non model schools to initiate Lesson Study.

As examined in the above 2 indicators, Output 4 was achieved.

4 indicators of Project Purpose “Systems to disseminate the Teaching Methods nationwide are strengthened” and indicators of 4 outputs are achieved.

It is interpreted as follows: human resources (the Professional Team members and district/*aimag* team members) who can conduct training, the Training Package including training modules and training program was developed based on the experiences of model district/*aimag*, commitment of the MES on disseminating the Teaching Method was confirmed. Thus system is made for the dissemination of the Teaching Methods.

2.3 Overall Goal: The child-centered teaching methods are implemented in model and other districts/*aimags*.

The Overall Goal is the goal which is expected to be achieved within 3 to 5 years after the Project period.

Two indicators of Overall Goal were examined twice, at the time of the terminal evaluation (September 2012), and at the end of the Project period (August 2013).

Indicator 1: Sixty percent of all schools in the whole country implemented Lesson Study at least twice every year.

There were 476 out of 747 schools (64%) in the country which conducted Lesson Study at least once in 2011/2012.

There were 487 out of 752 schools (65%) in the country which conducted Lesson Study at least twice in 2012/2013.

Indicator 2: The training on the Teaching Methods is conducted at all district/*aimags*.

There were 19 out of 21 *aimags* conducted training on the Teaching Methods in 2011/2012. UB City’s DE conducted subject-wise training 32 times, which were attended by 1,800 participants.

Sixteen *aimags* and UB City’s DE conducted the training on the Teaching Methods in 2012/2013. A total of 14,932 teachers participated in the training. (The total number of teachers in Mongolia is 26,492.)

As for the termination of the Project, 487 out of 752 schools (about 65%) in the country conducted Lesson Study at least twice, and 16 *aimags* and UB City’s DE conducted the training on Lesson Study in 2012/2013. Therefore, the Overall Goal will be achieved within 3 to 5 years after the project period.

The Professional Teams were formed, model district/*aimags*, model schools were selected, and trial of Training Package was available in November 2011. In view of the school calendar of Mongolia, the original project period enabled only one year (September 2011 to June 2012). As the project duration was extended, it was made possible to see the efforts of the model schools for the two full academic years (2011/2012 and 2012/2013).

The following factors contributed to the above achievements: (1) GOM/MES education reform, emphasizing “each child’s development” and (2) Establishment of the ITPD encouraged the shift to the teaching methods which support children’s development through provision of in-service teacher training.

ITPD conducted the basic training targeting teachers with 10 years’ experience in March/April 2013 as follows:

- Total number of trained teachers: 1,186

- Venue and duration: UB, Khovd, Khentii, Arkhangai, 7 days
- Training contents:
 - The first day: The MES policy
 - The second and third day: Subject contents and Pedagogy
 - The fourth day: IT in education
 - The fifth day: The improvement of teaching methods based on Lesson Study
 - The sixth day: Development of each child
 - The seventh day: The training held outside, i.e. visit to museum, court and plan lessons
- On the second and third day, the teacher's guidebooks developed in the Phase I was partly used. On the fifth and seventh day, the Project's ideas were utilized.

2.4 Super Goal: The learning achievement of primary and secondary students is enhanced.

Analysis was made on the change of students' achievement test utilizing the achievement test conducted by Zavkhan *Aimag*'s DE. However, there was no statistically significant change observed.

Zavkhan *Aimag*'s DE conducted students' achievement test in 2011 targeting 31 schools.

The Project Team tried to analyze the data by dividing the results of 6 model and non-model schools of 25. However, compared to the result of 2009 examination, the results were improved both in model and in non-model schools. There was no significant difference between the model schools and non-model schools.

In order to assess the impact of the Project on students' academic achievement, it is necessary to take into account various factors. It is important to continue checking the improvement of students.

Chapter 3 Implementation Process

The implementation process of the Project was described below.

3.1 The First Year (March 2010 to March 2011)

(1) Planning the Project Implementation

The Japanese and English version of the Inception Report was drafted.

(2) Establishment of the Project Implementation Structure

1) Explanation on the Inception Report and Discussion

The Project Team started the Project activities from April 2010. The Experts had a series of meetings with Project Director (Vice Minister), Project Manager (Director, Department of General Education, MES), and Project Coordinator (Senior Expert, Institute of Education).

2) Selection of Model District/*Aimags* and Model Schools

The MES sent the letter to all districts/*aimags*' DE asking whether they were interested in acting as the model district/*aimag* of the Project. Having examined the responses from the districts and *aimags*, Songino Khaikhan District, Bulgan *Aimag*, Zavkhan *Aimag* were selected as model district/*aimags*.

Then 14 model schools were selected from the district and two *aimags*.

Table 3-1: Model Schools

Songino Khaikhan District	Bulgan <i>Aimag</i>	Zavkhan <i>Aimag</i>
Ireedui Complex School School No.12 School No.67	School No.1 Khishig-Undur <i>Sum</i> School Selenge <i>Sum</i> School Gurvanbulag <i>Sum</i> School Khutag-Undur <i>Sum</i> School	Chandmani-Erdene Complex School Shiluustei <i>Sum</i> School Songino <i>Sum</i> School Bayantes <i>Sum</i> School Tosontsengel <i>Sum</i> School No.1 Zavkhanmandal <i>Sum</i> School

(3) Implementation of Training in Japan

Training in Japan inviting 8 personnel from the MES, Institute of Education, 5 representatives from Teaching Method Development Centers, and UB City's DE was conducted in October 2010.

(4) Activities related with Output 1 "Capacities of the district/*Aimag* team in all districts/*aimags* to disseminate the Teaching Methods are enhanced."

1) Development of Training Package

Development of training package started. The Professional Team members prepared the first drafts. The draft modules were tried in the training targeting model district/*aimag* teams.

Table 3-2: Structure of Training Package in the First Year

No.	Module	Author	Note
1	Physics	Physics Group	<ul style="list-style-type: none"> • 10 printing pages • In the first chapter, the outline of Teaching Methods and Lesson Study are explained. This chapter is common part for all modules. • From the second chapter, the Teaching Methods and Lesson Study reflected respective subject are described. • Each module contains the training program.
2	Chemistry	Chemistry Group	
3	Human and Environment	"Human and Environment" Group	
4	Human and Nature	"Human and Nature" Group	
5	Primary Mathematics	Primary Mathematics Group	
6	Secondary Mathematics	Secondary Mathematics Group	
7	IT	IT Group	

8		Integrated Studies	Integrated Studies Group	
9	Module for administrators		Administrator and Manager Group	<ul style="list-style-type: none"> • 10 printing pages • This module explains the role of DE and school administrators in the teaching method improvement. Some examples of the practices of model schools are complied.
10	Management module		Monitoring Group	<ul style="list-style-type: none"> • 20 printing pages • The process of planning, implementation and monitoring on the teaching method improvement are introduced in this module. • Only the monitoring part was submitted in the first year.

2) Training by the Professional Team for District/*Aimag* Teams in Model District/*Aimags*

In November 2010, the training for the district/*aimag* teams in model district/*aimags* was conducted by the Professional Team based on the drafted Training Package. The training program for five days was as follows.

- The first day: Targeting all participants, provide basic understanding on Lesson Study.
- The second and third day: Participants were divided into the eight subjects groups and school administrators' group.
- The fourth day: Research lesson was conducted, discussion followed.
- The fifth day: Developed the training plan by school and by *aimag*.

The outline of the training was as shown in the following tables.

Table 3-3: Outline of the Training Conducted in Songino Khairkhan District, UB

Date	1-5 November 2010	
Venue	Ireedui Complex School (High school No.1 and No.2), Songino Khairkhan District, UB	
Trainer	Professional Team members: 63	
Participants	Total: 84	
	UB City's DE	Specialists of City's DE: 7, non-model district's DE: 1, non-model district school: 13
	Songino Khairkhan District's DE (District Team)	Specialists of DE: 2, schools in Songino Khairkhan District: 8
	Ireedui Complex School	Principal: 5, Training Manager 5, Teacher: 8 x subjects x 2
	School No.12	Principal: 1, Training Manager: 2, Teacher: 8 x subjects x 2
	School No.67	Principal: 1, Training Manager: 2, Teacher: 8 x subjects x 2
	Others	Dornod Universit:1, School No.4 in Selenge <i>Aimag</i> : 1, Oyunii-Ireedui Complex School: 1, JICA Volunteer: 2

Table 3-4: Outline of the Training Conducted in Bulgan *Aimag*

Date	12-16 November 2010	
Venue	School No.1, Bulgan <i>Aimag</i>	
Trainer	Professional Team members: 18	
Participants	Total: 70	
	Bulgan <i>Aimag</i> 's DE (<i>Aimag</i> Team)	Specialists of DE: 10, schools in Bulgan <i>Aimag</i> : 3
	School No.1	Principal: 1, Training Manager: 2, Teacher: 8 subjects x 1
	Khishig-Undur Sum School	Principal: 1, Training Manager: 1, Teacher: 8 subjects x 1
	Selenge Sum School	Principal: 1, Training Manager: 2, Teacher: 8 subjects x 1
	Gurvanbulag Sum School	Principal: 1, Training Manager: 2, Teacher: 8 subjects x 1
	Khutag-undur Sum School	Principal: 1, Training Manager: 2, Teacher: 8 subjects x 1
Others	Arkhangai School of Mongolia State University of Education: 1, Erdin-Urgur Complex School: 2	

Table 3-5: Outline of the Training Conducted in Zavkhan Aimag

Date	19 -23 November 2010	
Venue	Chandmani-Erdene Complex School, Zavkhan Aimag	
Trainer	Professional Team members: 23	
Participants	Total: 116	
	Zavkhan Aimag's DE4 (Aimag Team)	Specialists of DE: 9, schools in Zavkhan Aimag: 8
	Chandmani-Erdene Complex School	Principal: 1, Training Manager: 2, Teacher: 8 subjects x 1
	Shiluustei Sum School	Principal: 1, Training Manager: 1, Teacher: 8 subjects x 1
	Songino Sum School	Principal: 1, Training Manager: 1, Teacher: 8 subjects x 1 and on teacher in charge of Integrated Studies
	Bayantes Sum School	Principal: 1, Training Manager: 1, Teacher: 7 subjects x 1 (except IT)
	Tosontsengel Sum School No.1	Principal: 1, Training Manager: 3, Teacher: 8 subjects x 1 and on teacher in charge of Integrated Studies
	Zavkhanmandal Sum School	Principal: 1, Teaching Methodology Unit: 1, Teacher: 8 subjects x 1
	Others	Bayan-Ulgii Aimag: 8, schools in Uliastai: 27

3) Planning the Technical Assistance by the Professional Team for District/Aimag Team in all Districts/Aimags

In order to introduce the teaching method as much as possible, the Project Team and the Professional Team members conducted the following activities.

Table 3-6: Technical Assistance for all Districts/Aimag

Date	Activity	Organizer (Venue)	Target	Assistance
2010				
3 May	Lecture	UB City's DE	Specialist of UB City's DE	The Project Experts gave the lectures on the education systems in Japan.
9-11 December	Training on Lesson Study	Selenge Aimag's DE (School No.1 , Selenge Aimag)	Training managers in Selenge Aimag	The Project Experts introduced the Project activities and showed some examples of Lesson Study in Japan during the training.
13-14 December	Training on Lesson Study	School No. 20, Bayangol District, UB	Teachers of School No. 20 and neighbouring 5 schools	The Professional Team members and the Project Expert gave the lecture and practices.
18 December	Mathematics Conference	Mongolia State University of Education	50 teachers of Department of Education	The Project Expert introduced the Project activities and Lesson Study.
2011				
7 March	Research Lesson	Selenge Aimag's DE (School No.2 , Selenge Aimag)	Teachers of Sukhbaatar City	The Project Experts attended the research lessons of Physics, "Human and Environment", Primary Mathematics, Social Study and gave comments in the review session.

(5) Activities related with Output 2 "Models of Lesson Study are developed in model district/aimags".

1) Planning and Implementation of Lesson Study in Model District/Aimags

Model district/aimags formulated the Lesson Study implementation plan in the fifth day of November training in 2010. After the training, they improved the plan taking into consideration

⁴ Zavkhan Aimag's DE stated that they wanted to involve many specialists to the Project. Thus, the number of participants was increased.

the advice from the Project Team and other DE specialists.

Model schools started Lesson Study in January 2011.

2) Lesson Study Monitoring by the Professional Team in Model School

The Project Team and the Professional Team members conducted monitoring of Lesson Study in model schools. The objectives were not only to monitor their practice, but to provide advice on their Lesson Study implementation

Table 3-7: Outline of the first Lesson Study Monitoring

Model District/Aimags	Date	Group1		Group2	
Songino Khairkhan District	14 February -11 March 2011	The Professional Team monitored 8 subjects at each model school.			
Bulgan <i>Aimag</i>	27 February- 5 March 2011	Selenge School No.1 Khutag-Undur	Primary and Secondary Mathematics IT Integrated Studies Administrator	Gurvanbulag Khishig-Undur School No.1	Physics Chemistry Human and Environment Human and Nature
Zavkhan <i>Aimag</i>	19-26 February 2011	Tosontsengel Songino Chandmani- Erdene	Chemistry Human and Environment Human and Nature Integrated Studies	Shiluustei Chandmani- Erdene Zavkhanmandal	Physics Primary and Secondary Mathematics IT Administrator

(6) Activities related with Output 4 “The environment to disseminate and establish the Teaching Methods in PRESET is improved.”

1) Introduction of Training Package to Teacher Training Institute

The meeting with the Rector of Mongolia State University of Education was held in September 2010 to introduce the activities of the Project and the Training Package being developed at that time.

2) Introduced Lesson Study in 2010/2011 objective of the MES

The implementation of Lesson Study was incorporated in 2010/2011 objectives of the MES. The objectives included are “All teachers study the methods to conduct Lesson Study”, and “Each school formulates Lesson Study implementation plan, and conduct it more than twice in an academic year.”

3.2 The Second Year (April 2011 to December 2011)

(1) Implementation of Training in Japan

In the second year training, the specialists from DE, training managers and teachers were invited to Japan. For the specialists of DE, there were the two objectives: (1) to understand the child-centered teaching method and (2) to understand the in-service training system for teachers in Japan including the training by the board of education, university and schools. For the training managers and teachers: (1) to understand the child-centered teaching method and (2) to understand the school-based Lesson Study in Japan.

Blackboard management was one of the lectures which had a big impact on the participants.

(2) Activities related with Output 1 “Capacities of the district/*aimag* team in all district/*aimags* to disseminate the Teaching Methods are enhanced.”

1) Revision of Training Package

The revision of the first year drafts of the Training Package was made taking into account the comments from reviewers of the MES and feedback from the training in November 2010. The revised structure of the package is shown below.

Table 3-8: Structure of Training Package

No.	Module	Author	Note
1	Basic Module	Representatives from each group	Decided to develop a separate module.
2	Module for teachers	Physics	Teaching method supporting child development, Lesson Study With due attention characteristics of the eight subjects.
3		Chemistry	
4		Human and Environment	
5		Human and Nature	
6		Primary Mathematics	
7		Secondary Mathematics	
8		IT	
9		Integrated Studies	
10	Module for administrator	Administrator and Management Group	Targeting DE and school administrators.

The revised modules were tried in the training of November 2011. The modules were submitted to the MES for review.

2) Implementation of the Training for the District/*Aimag* Teams in all Districts/*Aimag*s

The training for the district/*aimag* teams” in all districts/*aimags* was conducted in November 2011 in 6 venues. The outline of the training is shown in the following table.

Table 3-9: Outline of the training

No.	Date	Venue	Trainer	Participants	Detail
1	1-5 November 2011	Ireedui Complex School, Songino Khairkhan District, UB	34	124	UB City’s DE, Songino Khairkhan District (District Team, Ireedui Complex School No.11, School No.67), Khan-uul District, Chingeltei District, Bayangol District, Sukhbaatar District, Mongolia State University of Education, JICA Volunteer
2	10-14 November 2011	School No.85, Bayanzurkh, UB	24	97	Baganuur District, Nalaikh District, Bagakhangai District, School No.85, Govi-Sumber <i>Aimag</i> , Tuv <i>Aimag</i> , Umnu-Govi <i>Aimag</i> , Dund-Govi <i>Aimag</i> , Mongolian Language Group, Social Study Group ⁵
3	11-15 November 2011	School No.1, Bulgan <i>Aimag</i>	20	93	Bulgan <i>Aimag</i> (<i>Aimag</i> Team, School No.1, Khutag-Undur <i>Sum</i> , Khishig-Undur <i>Sum</i> , Gurvanbulag <i>Sum</i> , Selenge <i>Sum</i> School) Khuvsgul <i>Aimag</i> , Uvurkhangai <i>Aimag</i> , Bayankhongor <i>Aimag</i>
4	11-15 November 2011	Chandmani-Erdene Complex	20	104	Zavkhan <i>Aimag</i> (<i>Aimag</i> Team, Chandmani-Erdene Complex School, Songino <i>Sum</i> , Shiluustei <i>Sum</i> , Bayantes

⁵ Professional Teams on “Mongolian Language” and “Social Studies” were established by the Minister’s Order No. 428 of 2011.

		School, Zavkhan Aimag			Sum, Zavkhanmandal <i>Sum</i> , Tosontsengel <i>Sum</i> School No.1), Govi-Altai Aimag, Khovd Aimag, Uvs Aimag, Bayan-Ulgii Aimag
5	11-15 November 2011	Khan-uul Complex School, Dornod Aimag	21	86	Dornod Aimag (Aimag Team, Choibalsan City, Khan-uul Complex School, Bayan-uul <i>Sum</i> , Dashbalbar <i>Sum</i> School), Khenti Aimag, Sukhbaatar Aimag
6	12-16 November 2011	School No.1, Selenge Aimag	20	91	Selenge Aimag (Aimag Team, Sukhbaatar City, Mandal <i>Sum</i> , Khutul <i>Sum</i> , Tsagaan-nuur <i>Sum</i> , Eruu <i>Sum</i> School) Dornogovi Aimag, Orkhon Aimag, Darkhan-uul Aimag

Level of satisfaction on the training was high. However, the degree of satisfaction decreased on the last day. Level of understanding on the Teaching Method and *Kyozai Kenkyu* was not high.

3) Planning the Technical Assistance by the Professional Team for the District/Aimag Teams in all District/Aimag

Table 3-10 : Technical Assistance to District/Aimag

Date	Activity	Organizer (Venue)	Target	Assistance
7 November 2011	Lecture	Khan-uul District DE (School No.15)	Specialists of Khan-uul District's DE, principals, training managers	The Expert gave the lecture on the Teaching Methods, Lesson Study and the school based Lesson Study.
8 December 2011	Lecture	Bayangol District DE (DE Training Center)	2 specialists of Bayangol District, 20 principals, 2 training managers, 2 teachers	The specialists of UB City's DE, the Project Coordinator and the Expert gave the lectures on Lesson Study.
9-10 December 2011	Lecture	Bayanzurkh DE (School No.14)	45 training managers of schools in Bayanzurkh District (38 schools out of 71 schools)	The specialists of UB City's DE, the specialists of Bayanzurkh District's DE, the training manager of School No.102 and the Expert gave the lectures on Lesson Study.

(3) Activities related with Output 2 "Models of Lesson Study are developed in model district/aimags"

1) Planning and Implementation of Lesson Study in Model District/Aimag

In June 201, "Lesson Study Implementation Seminar" was conducted to share the results of model schools and model DE's practice.

Model district/Aimag's DE and model schools formulated the Lesson Study implementation plan. Based on the discussions made on the third day, the number of Lesson Study monitoring was increased to twice.

2) Lesson Study Monitoring by the Professional Team in Model School

The Lesson Study monitoring for the model schools were conducted for the second time. Several new initiatives were conducted in the model schools.

There were also good arrangements made for Lesson Study implementation. On the other hand, some lessons paid too much attention on showing good lessons.

Table 3-11: Outline of the Second Lesson Study Monitoring

Model district/aimags	Date	Group1	Group2
Songino	15 September	The Professional Team monitored 8 subjects at each model school.	

Khairkhan District	-15 October 2011				
Bulgan <i>Aimag</i>	11-14 October 2011	Selenge School No.1 Khutag-Undur	Physics Chemistry Human and Environment Human and Nature	Gurvanbulag Khishig-Undur School No.1	Primary and Secondary Mathematics IT Integrated Studies Administrator
Zavkhan <i>Aimag</i>	10-17 September 2011	Chandmani-Erdene Shiluustei Zavkhanmandal Tosontsengel	Chemistry Human and Environment Human and Nature Integrated Studies	Chandmani-Erdene Songino Bayantes	Physics Primary and Secondary Mathematics IT Administrator

3) Lecture at Ireedui Complex School in Songino Khairkhan District, UB

The Project Team conducted the seminar for Ireedui Complex School in November 2011 and also observed the lessons and attended the lesson review sessions.

(4) Activities related with Output 3 “Capacities of schools in model district/*aimags* to practice the Teaching Methods are enhanced”.

Model Schools conducted the following training in 2011.

Table 3-12: The Training Conducted by Model Schools in the Second Year

No.	School	Date	Targets	No. of participants
1	School No.67	2-3 May 2011	School No.74, No.76, No.104, and No.105	97
2	Khishig-Undur <i>Sum</i> School	N/A	Orkhon <i>Sum</i> School, Mogod <i>Sum</i> School, Buregkhangai <i>Sum</i> School	48
3	Khutag-Undur <i>Sum</i> School	2-4 March 2011 to 9-10 April 2011	Unit <i>Sum</i> School, Khantei <i>Sum</i> School, Bayan-Agt <i>Sum</i> School, Saikhan <i>Sum</i> School, Teshig <i>Sum</i> School	85
4	Selenge <i>Sum</i> School	6-7 May 2011	Bugat <i>Sum</i> School, Khangal <i>Sum</i> School, Khyalganat <i>Sum</i> School	63
5	Gurvanbulag <i>Sum</i> School	N/A	Rashaant <i>Sum</i> School, Dashinchilen <i>Sum</i> School, Bayanuu <i>Sum</i> School	78
6	Tosontsengel <i>Sum</i> School No.1	11-13 February 2011	Tosontsengel <i>Sum</i> School No.1 , No.2, Ikh-Uul <i>Sum</i> School, Ider <i>Sum</i> School, Telmen <i>Sum</i> School	64
7	Songino <i>Sum</i> School	11-13 February 2011	Songino <i>Sum</i> School and neighboring schools	Songino: 25 Others: 40
8	Bayantes <i>Sum</i> School	11-13 February 2011	Bayantes <i>Sum</i> School and neighboring schools	71
9	Zavkhanmandal <i>Sum</i> School	11-13 February 2011	Zavkhanmandal <i>Sum</i> School and neighboring schools	51
10	Shiluustei <i>Sum</i> School	11-13 February 2011	Shiluustei <i>Sum</i> School and neighboring schools	45

According to the results of the second monitoring, model schools were making efforts to conduct Lesson Study, however their quality of lesson was not improved. Thus, there was a risk of disseminating wrong information to non-model schools.

The Project Team decided to encourage the model schools’ initiatives not withstanding such risk.

(5) Activities related with Output 4 “The environment to disseminate and establish the Teaching Methods in PRESET is improved.”

1) Introduction of Training Package to Teacher Education Institution

In collaboration with Mongolia State University of Education, the introduction seminar on the Training Package was conducted in August 2011. In addition to the teaching staff of Mongolia State University of Education, teaching staff of Dornod, Khovd, Bayan-Ulgii and Gurvan Erdene University were invited.

As a follow up to this seminar, the teaching staff of the above teaching education institutions were invited to the training in November as observers.

3.3 The Third Year (February 2012 to January 2013)

(1) Implementation of Training in Japan

In the third year, the training in Japan and the technical exchange with Indonesia were conducted.

The Training in Japan was conducted in June 2012 for two weeks. The objectives of the training were: (1) to enable the participants to adequately see “lesson”, “children”, and “teaching and learning materials” through observing the lessons conducted by teachers of Japan, (2) to equip the participants with good understanding on *Kyozai Kenkyu*, and (3) to understand how Japanese teacher improve their teaching skills within schools (school-based Lesson Study). The 21 personnel from the MES, principals, and training managers participated in the training.

The following initiatives were made by the trainees after the training

- Introduced “morning reading session” and “cleaning of classroom by students”: School No.12, Songino Khairkhan District, UB
- Conducted training on attached 7 schools of Ireedui Complex and neighboring School No. 62 utilizing the fund available from alumni organization of JICA trainees: Ireedui Complex School, Songino Khairkhan District
- Blackboard management and note-taking were set as the school theme for Lesson Study: Khishig-Undur *Sum* School, Bulgan *Aimag*

(2) The Technical Exchange with the JICA Project in Indonesia

Based on the recommendation of the mid-term review, the technical exchange with Program for Enhancing Quality of Junior Secondary Education in Indonesia was organized on 21-29 May 2012.

The participants’ findings are summarized below:

- Top-down approach will be more effective in Mongolia on the contrary to Indonesia where decentralization process is on-going.
- Participants from DE noted that Mongolia should learn from provincial and school initiatives.
- Forced and quick implementation may lead to a name only Lesson Study.
- Observing “lesson observation sheet” and “lesson video shooting” of Indonesia, they focused more on children’s learning.
- *Kyozai Kenkyu* was given more emphasis in Mongolia than in Indonesia

One of the participants attended the World Association of Lesson Studies 2012 International Conference in November 2012 and mad the presentation.

(3) Activities related with Output 1 “Capacities of the District/*Aimag* Teams in all Districts/*Aimags* to disseminate the Teaching Methods are enhanced.”

1) Revision of the Training Package

Professional Team members once again revised the Training Package after the trial in November 2011 and having received the comments from the reviewers of the MES.

2) Implementation of the training for the district/*aimag* teams in all districts/*aimags*

a. Report Meeting of Lesson Study

Two days’ report meeting of Lesson Study was held in June 2012. This time, a representative of from every non-model *aimags* was invited as well.

The following issues were reported from non-model *aimags*:

<Management of Lesson Study >

- Shortage of understanding of Lesson Study by school administrators
- Difficult to foster collaboration among teachers because of passive participation of experienced teachers
- Difficult to find the teachers of same subject within a school
- Difficult to arrange schedule for Lesson Study within school
- Shortage in budget for DE specialist visit to schools and for purchasing materials

<Lesson Study Implementation >

- Lack of subject content knowledge
- Shortage in teaching and learning materials
- Difficulty in conducting experiment because of teaching and learning materials, teacher’s inexperience, and reference materials
- Shortage of understanding on good blackboard management, and note-taking
- Lack of knowledge on how to encourage students’ participation in lessons
- Lack of knowledge on research lesson observation
- Teachers are being criticized in lesson review session

b. Training for Trainers

Training of trainers for 2012 November training for the district/*aimag* teams was conducted.

The participants’ needs for training were summarized as below:

<Improved quality of lesson >

- How to know children’s previous knowledge
- How to anticipate children’s reaction
- How to use children’s *Tsumazuki*
- Advice on subject content knowledge

<Improves Lesson Study Management >

- Example on how to formulate Lesson Study implementation plan
- How to build regional network
- More training for *aimag* teams and DE specialists (On-line training was also welcomed)

c. Training for the district/*aimag* teams in all districts/*aimags*

In order to maintain the participants’ concentration, the duration was made to four days. Preparation for the third day’s research lesson was well made.

30 personnel from the ITPD participated in the training as observers.

The outline of the training for all district/*aimag* teams is summarized below:

Table 3-13: Outline of the Training

No.	Date	Venue	Trainer	Participants	Detail
1	3-6 November 2012	Ireedui Complex School, Songino Khairkhan District, UB	33	120	UB City's DE, Songino Khairkhan District (District Team, Ireedui Complex School No.11, School No.67), Khan-uul District, Chingeltei District, Bayangol District, Sukhbaatar District, ITPD, JICA Volunteer
2	10-13 November 2012	School No.85, Bayanzurkh, UB	26	82	Baganuur District, Nalaikh District, Bagakhangai District, School No.85, Govi-Sumber <i>Aimag</i> , Tuv <i>Aimag</i> , Umnu-Govi <i>Aimag</i> , Dund-Govi <i>Aimag</i> , ITPD, JICA Volunteer
3	14-17 November 2012	School No.1, Bulgan <i>Aimag</i>	22	84	Bulgan <i>Aimag</i> (<i>Aimag</i> Team, School No.1, Khutag-Undur <i>Sum</i> , Khishig-Undur <i>Sum</i> , Gurvanbulag <i>Sum</i> , Selenge <i>Sum</i> School) Khuvsugul <i>Aimag</i> , Uvurkhangai <i>Aimag</i> , Bayankhongor <i>Aimag</i> , ITPD, JICA Volunteer
4	11-14 November 2012	Chandmani-Erdene Complex School, Zavkhan <i>Aimag</i>	18	113	Zavkhan <i>Aimag</i> (<i>Aimag</i> Team, Chandmani-Erdene Complex School, Songino <i>Sum</i> , Shiluuste <i>Sum</i> , Bayantes <i>Sum</i> , Zavkhanmandal <i>Sum</i> , Tosontsengel <i>Sum</i> School No.1), Govi-Altai <i>Aimag</i> , Khovd <i>Aimag</i> , Uvs <i>Aimag</i> , Bayan-Ulgii <i>Aimag</i> , Khovd University, Bayan-Ulgii School of Khovd University
5	14-17 November 2012	Khan-uul Complex School, Dornod <i>Aimag</i>	21	82	Dornod <i>Aimag</i> (Dornod <i>Aimag</i> 's DEC, Khan-uul Complex School, School No.5, and other schools), Khenti <i>Aimag</i> , Sukhbaatar <i>Aimag</i> , Dornod University, ITPD
6	14-17 November 2012	School No.1, Selenge <i>Aimag</i>	18	94	Selenge <i>Aimag</i> (Sukhbaatar City, Mandal <i>Sum</i> , Khutul <i>Sum</i> , Tsagaan-nuur <i>Sum</i> , Eruu <i>Sum</i> School, training manages of other area) Dornogovi <i>Aimag</i> , Orkhon <i>Aimag</i> , Darkhan-uul <i>Aimag</i> , ITPD, JICA Volunteer

3) Planning the Technical Assistance by the Professional Team for the District/*Aimag* Team in all Districts/*Aimags*

a. The Technical Assistance by the Professional Team for non-model District/*Aimags*

The Professional Team members provided the following technical assistance. Training for Arkhangai and Umnu-Gobi *Aimag* was arranged with the additional budget of the MES.

The training for Darkhan-uul *Aimag* was arranged by Darkhan-uul *Aimag*'s DE. Its expenses were borne by the DE.

Table 3-14: Technical Assistance for non-model District/*Aimags*

Implementer	Target	Assistance	Date
Professional Team	Arkhangai <i>Aimag</i>	Training	15-17 March 2012
Professional Team	Umnu-Govi <i>Aimag</i>	Training	1-3 October 2012
Professional Team	Dund-Govi <i>Aimag</i>	Monitoring	8-12 October 2012
Project Team	Darkhan-uul <i>Aimag</i>	Training	3 December 2012

b. Development of Website

The website on Lesson Study <http://hicheeliin-sudalgaa.mn/> was established. The administration of the website was handed over to ITPD in March 2013.

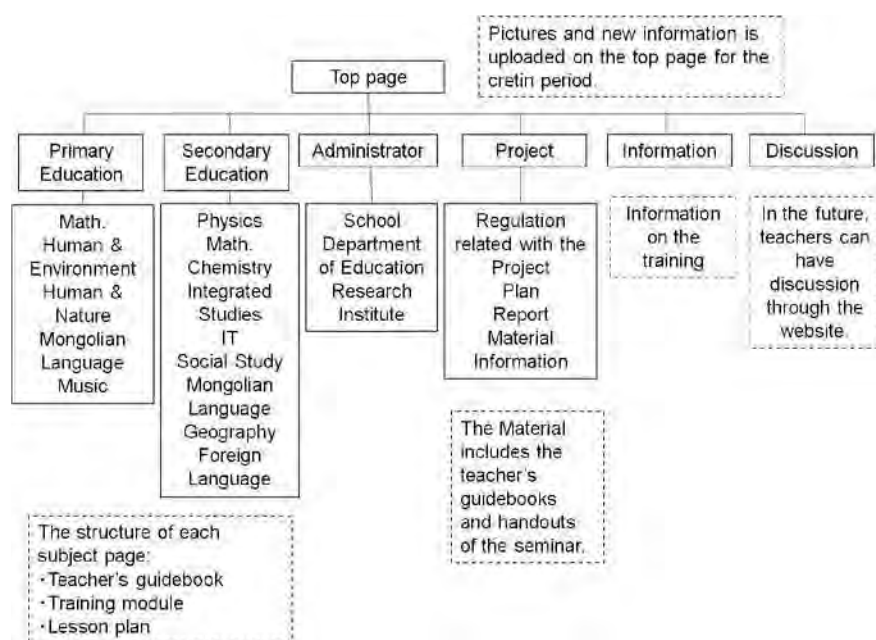


Chart 3-1: The structure of website on Lesson Study

c. Development of Lesson Study Video

Professional Team members led by the Mathematics Team developed the video explaining the objective and contents of Lesson Study citing the example of Mathematics lesson was developed. The three sets of DVDs were distributed to every school of Mongolia.

4) Planning and Implementation of the Technical Assistance by Model District/*Aimags* Teams for non-model District/*Aimags*

Following the recommendation from JICA mid-term review team, the assistance for non-model *aimags* from model *aimags* was included in the project activities. Some activities were conducted with the additional budget of the MES.

Table 3-15: Technical Assistance for non-model District/*Aimags*

Implementer	Target	Assistance	Date
Zavkhan <i>Aimags</i> Team	Bayan-Ulgii <i>Aimags</i>	Monitoring	22-28 April 2012
Selenge <i>Aimags</i> Team	Darkhan-uul <i>Aimags</i>	Monitoring	30 April-5 May 2012
Dornod <i>Aimags</i> Team	Khentii <i>Aimags</i>	Monitoring	6-12 May 2012
Bulgan <i>Aimags</i> Team	Uvurkhangai <i>Aimags</i>	Training	24-26 September 2012
UB City's DE	Chingeltei District	Monitoring	24-28 September 2012
Dornod <i>Aimags</i> Team	Sukhbaatar <i>Aimags</i>	Training	27-29 September 2012
Bulgan <i>Aimags</i> Team	Khuvsgul <i>Aimags</i>	Monitoring	24-30 October 2012
Selenge <i>Aimags</i> Team	Selenge <i>Aimags</i> , Orkhon <i>Aimags</i> , and Dorno-Govi <i>Aimags</i>	Training	15-16 January 2013

The above activities contributed to achieve the Overall goal.

(4) Activities related with Output 2 “Models of Lesson Study are developed in model district/*aimags*.”

1) Report Meeting on Lesson Study

As described above, the Lesson Study report meeting was organized in June 2012. Four lessons prepared in School No. 97 and Setgemj Complex School of UB to demonstrate as good lesson examples.

2) Implementation of Lesson Study by Model Schools

Model schools implemented the Lesson Study based on the plan developed during the meeting above.

3) Lesson Study Monitoring by the Professional Team in Model Schools

The Professional Team members and the Project Team conducted the Lesson Study monitoring twice in 2012. In autumn monitoring, monitoring of model schools' Lesson Study quality and lesson quality were made. The comparison was made between 2011/2012 and 2010/2011.

Table 3-16: Outline of the third Lesson Study Monitoring

Model district/ <i>aimags</i>	Date	Group1		Group2	
Songino Khairkhan District	12-21 March 2012	The Professional Team monitored 8 subjects at each model school.			
Bulgan <i>Aimag</i>	2-7 March 2012	Selenge School No.1 Khutag-Undur	Primary and Secondary Mathematics IT Integrated Studies Administrator	School No.1 Khishig-Undur Gurvanbulag	Physics Chemistry Human and Environment Human and Nature
Zavkhan <i>Aimag</i>	10-17 March 2012	Tosontsengel Songino Chandmani-Erdene	Physics Human and Nature IT Integrated Studies Administrators	Shiluustei Chandmani-Erdene Zavkhanmandal	Chemistry Human and Environment Primary and Secondary Mathematics Administrators

Table 3-17: Outline of the fourth Lesson Study Monitoring

Model district/ <i>aimags</i>	Date	Group1		Group2	
Songino Khairkhan District	3-12 October 2012	The Professional Team monitored 8 subjects at each model school.			
Bulgan <i>Aimag</i>	24-29 September 2012	Selenge School No.1 Khutag-Undur	Physics Chemistry Human and Environment Human and Nature Administrator	Gurvanbulag Khishig-Undur School No.1	Primary and Secondary Mathematics IT Integrated Studies Administrator
Zavkhan <i>Aimag</i>	15-22 September 2012	Chandmani-Erdene Songino Bayantes	Chemistry Human and Environment Human and Nature Integrated Studies	Shiluustei Zavkhanmandal Tosontsengel	Physics Primary and Secondary Mathematics IT Administrator

(5) Activities related with Output 3 "Capacities of schools in model district/*aimags* to practice the Teaching Methods are enhanced."

1) Formulation of Training Plan for School Administrators and Teachers in Model District/*Aimags*

The district/*aimag* teams of model district/*aimags* formulated the training plan. The model schools were encouraged to conduct training involving the neighboring schools.

2) Implementation of Training Plan for School Administrators and Teachers in Model

District/Aimags

Model district/*aimag* teams conducted the training for non-model schools.

a. Songino Khairkhan District

Compared to *aimags*, it is easy to visit each other in Songino Khairkhan District. Arrangement was made to reduce the workload of teachers by organizing the training in three different days. However, there was no co-ordination between District's DE and City's DE.

Table 3-18: Training for non-model Schools in Songino Khairkhan District

Model School	Date	Target, number of participants
School No.12	13-15 February 2012	Around 6 Schools: 50 participants
School No.67	27 March, 6-13 April 2012	School No.74, No.76, No.104, and No.105 Teachers of primary school in charge of fifth and sixth grade, and teachers in charge of Physics, Chemistry, IT and Mathematics (Totally 40-50 participants)
Ireedui Complex School	Trainer's meeting was held before the training. 10 April 2012	56 teachers of Ireedui Complex School (except model schools)

b. Bulgan Aimag

Model schools conducted the training in collaboration with Bulgan *Aimag's* DE.

Table 3-19: Training for non-model Schools in Bulgan Aimag

Model School	Date	Target, participants
School No.1	30 January-1 February 2012	Erdemiin-urgoo Complex school:10 participants, Sport Secondary School: 6 participants
Gurvanbulag <i>Sum</i> School	8-9 January 2012	Rashaant <i>Sum</i> School, Dashinchilen <i>Sum</i> School, Bayannuur <i>Sum</i> School
Khishig-Undur <i>Sum</i> School	12-13 January 2012	Mogod <i>Sum</i> School: 21 participants, Buregkhangai <i>Sum</i> School: 16 participants, Orkhon <i>Sum</i> School: 16 participants
Selenge <i>Sum</i> School	13-14 January 2012	Eastern Region: 39 participants
Khutag-Undur <i>Sum</i> School	6-8 January 2012	Unit <i>Sum</i> School, Khantai <i>Sum</i> School, Saikhan <i>Sum</i> School, Bayan-Agt <i>Sum</i> School, Teshig <i>Sum</i> School: 35 participants

c. Zavkhan Aimag

Zavkhan *Aimag's* DE conducted the training in cooperation with the model schools in April 2012 as shown in the table below:

Table 3-20: Training for non-model Schools in Zavkhan Aimag

Model School	Date	Target, number of participants
Chandmani-Erdene Complex School	11-12 April 2012	Around 60 participants
Songino <i>Sum</i> School	19-20 April 2012	Tudevtei <i>Sum</i> School, Numrug <i>Sum</i> School, Tsetsen-Uul <i>Sum</i> School, Santmargats <i>Sum</i> School: 106 participants
Tosontsengel <i>Sum</i> School No.1	21-22 April 2012	Tosontsengel <i>Sum</i> School No.2, Ikh-Uul <i>Sum</i> School, Telmen <i>Sum</i> School, Ider <i>Sum</i> School: 143 participants
Bayantes <i>Sum</i> School	21-22 April 2012	N/A
Zavkhanmandal <i>Sum</i> School	20-21 April 2012	Durvuljin <i>Sum</i> School, Erdenekhairkhan <i>Sum</i> School, Yaruu <i>Sum</i> School, Urgamal <i>Sum</i> School: 78 participants
Shiluustei <i>Sum</i> School	23-24 April 2012	Tsagaankhairkhan <i>Sum</i> School, Tsagaanchuluut <i>Sum</i> School, Aldarkhaan <i>Sum</i> School, Otgon <i>Sum</i> School: 90participants

Zavkhan Aimag conducted the training in October 2012 as well. The training was held in 6 places. The DE specialists visited the venue and delivered lectures.

3) Monitoring of the Training by the Professional Team in Model District/*Aimags*

Monitoring was made only in Songino Khaikhan District this time due to the schedule of Bulgan and Zavkhan *Aimag* schools.

4) Provision of Skype Kits

Following the recommendation from JICA mid-term review team, Skype kit was given to the Professional Teams, model district/*aimag*'s DE, and model schools. Due to unstable access in internet in model schools, unfamiliarity with Skype (yahoo messenger is more commonly used), Skype kit was not used frequently.

(6) Activities related with Output 4 "The environment to disseminate and establish the Teaching Methods in PRESET is improved."

1) Measures towards Introduction of the Teaching Method into Curriculum of Teacher Education Institutions

"Module for Teacher Education Institutions" was developed.

2) Follow up activities for Output 4

The introduction seminar was held for teacher education institutions in September 2012. The number of participants was reduced taking into account the fact that understanding of the participants of 2011 seminar seemed superficial.

(7) Other Activities

1) Provision of Blackboards/ Technical Advice on Blackboard Management

Blackboards were provided to the model schools of the Project Phase I and this Project to motivate teachers' effective blackboard writing. The Project Experts provided advice on how to write effectively on blackboards.

Table 3-21: Provision of Blackboards

City/ <i>Aimag</i>	Schools	Number	Hand over date
UB City	School No.97	4	12 October 2012
	School No.12	6	12 October 2012
	School No.67	3	11 October 2012
	Ireedui Complex School	21	12 October 2012
Selenge <i>Aimag</i>	School No.1	9	14 October 2012
	School No.4	5	14 October 2012
	Khushaat <i>Sum</i> School	7	14 October 2012
Dornod <i>Aimag</i>	School No.5	8	16 October 2012
	Khan-uul Complex School	9	16 October 2012
	Matad <i>Sum</i> School	6	16 October 2012
Bulgan <i>Aimag</i>	School No.1	9	15 October 2012
	Selenge <i>Sum</i> School	3	15 October 2012
	Khutag-Undur <i>Sum</i> School	6	15 October 2012
	Khishig-Undur <i>Sum</i> School	10	15 October 2012
	Gurvanbulag <i>Sum</i> School	7	15 October 2012
Zavkhan <i>Aimag</i>	Chandmani-Erdene Complex School	2	18 October 2012
	Shiluustei <i>Sum</i> School	9	18 October 2012
	Zavkhanmandal <i>Sum</i> School	6	18 October 2012
	Tosontsengel <i>Sum</i> School No.1	6	18 October 2012
	Songino <i>Sum</i> School	8	18 October 2012
	Bayantes <i>Sum</i> School	8	18 October 2012
Total		152	

2) Preparation for Establishment of Teaching Methods Development Associations

The Project Expert briefed about the academic association’s function to the Professional Team members. After the one member returned from the World Association of Lesson Studies 2012 International Conference, the Professional Team members agreed to set up the association on Lesson Study in Mongolia.

3.4 The Third Year (March 2013 to August 2013)

The Project was scheduled to be completed at the end of February 2013. As the newly established ITPD became the main counterpart organization of the Project, the MES requested JICA to extend the Project. The Project was extended for six months. The following sections presents the activities conducted during the six months.

(1) Implementation of Training in Japan

The training in Japan was also organized in the extended period of the Project. The outlines of the training courses are shown in the following table. The pre-departure training was conducted for the five times.

Table 3-22: Outlines of Training Courses in Japan

Course	Participants	Main contents	Duration
Education System	<ul style="list-style-type: none"> • MES: 3 • Mongolia State University of Education: 1 • Institute of Education: 6 	<ul style="list-style-type: none"> • Education system in Japan • Course of Study • Textbook • School management • Teacher education • In-service teacher training • Visit to the teacher training center • Participation in the open Lesson Study • Visit to primary and secondary schools 	20 May to 31 May
Teacher Training System	ITPD: 10	<ul style="list-style-type: none"> • In-service teacher training • Visit to the teacher training centers • Participation in the open Lesson Study • Role of specialists • Private/voluntary Teacher’ s effort for teaching • <i>Kyozai Kenkyu</i> • School education plan • Lesson observation (Science/Mathematics) 	27 May to 7 June

(2) Technical Assistance for Formulation of INSET Implementation Plan

The workshop was held in July to develop action plans of ITPD and other stakeholders. The outputs of the workshop were further examined by ITPD.

(3) Technical Assistance for ITPD

The following technical assistance was made for ITPD.

- Meeting between Professional Team members and ITPD (January 2013)
- Lesson Study monitoring (March/April 2013)
- Hand over “Lesson Study” website administration (March 2013)
- OJT of ITPD Specialist

(4) The First Lesson Study Conference/Experience Sharing Workshop

The First Lesson Study Conference was held in 15-16 August 2013. Model district/*aimags*, a representative from every non-model district/*aimags*, and the Professional Team members attended the conference. The total number of participants was around 130.

There were 33 presentations and 25 poster sessions were conducted. A representative of Professional Team shared the plan for establishing a NGO named “Mongolian Association of Lesson Study”

(5) Activities related with Output 1 “Capacities of the District/*Aimags* Team in all District/*Aimags* to disseminate the Teaching Methods are enhanced.”

1) Completion of Training Package

The following training modules and handbooks were developed

- Module for Basic understanding on Lesson Study 800 copies
- Modules for Teachers (the eight subjects) 800 copies x 8
- Module for School Administrators 800 copies
- “Module for Teacher Education Institutions” 800 copies
- “Management Handbook for Teaching Method Dissemination” 800 copies

2) Introduction of How to Utilize Training Package and Lesson Observation Sheet

The seminar was conducted to advise how to utilize the Training Package and the lesson observationsheet developed in the Project in May for two days. The participants were 4 from the MES, 10 from Institute of Education, and 21 from ITPD. The Lesson observation sheets were presented as a reference or a framework for observing lesson.

3) Technical Advice (Organization of Science and Mathematics Seminar)

Seminars on Science and Mathematics were organized.

a. Primary Science Seminar

With the leadership of a Professional Team member of Mongolia National University and the Project Expert, Science seminars for primary science were held in three batches.

b. Primary Mathematics Seminar

In collaboration with the JICA Volunteers, primary mathematics seminars were conducted once a month for six months. The participants included the officials of Institute of Education and school teachers of UB.

Table 3-23: Contents of Primary Mathematics Seminar

	Date	Theme
No.1	28 Januar-1February	Addition and subtraction of fraction, the area of trapezoid
No.2	23 February	Introduction of multiplication
No.3	11 April	Multiplication of two-digit number
No.4	4 May	Surface area of three-dimensional shape
No.5	13 June	Sharing the learning of Training in Japan, selection of teaching and learning material

4) Dissemination of Information through Newspapers

Posting of articles on “Teacher Newspaper” was made for several times in order to introduce good initiatives made in the Project’s model schools.

Table 3-24: “Teacher Newspaper”

	No.	Subject	Grade	Lesson theme	Note
15 March	211	Chemistry	9	Alkali metal and water reaction	9 November 2012: School No.45
30 Mach	212	Secondary Mathematics	8	Rectangle	28 February 2011: Selenge <i>Sum</i> School
15 April	213	Primary Mathematics	4	Numbers up to a million	19 September 2012: Zavkhanmandal <i>Sum</i> School
30 April	214	Human and	4	“Why are there day	14 November 2011: Khan-uul

		Nature		and night?	Complex School
15 May	215	Physics	7	To understand "warmth"	12 November 2012: Chandmani-Erdene Complex School
30 May	216	Integraetd Studies	5	Utility of domestic animals	21 April 2013: Tosontsengel Sum School No.1
15 June	217	Human an Environment IT	3 9	Endangered species of Mongolia/Technology of mobile phone	February 2011 and April 2013: Chandmani-Erdene Complex School

(6) Activities related with Output 2 "Models of Lesson Study are developed in model district/*aimags*."

The final Lesson Study monitoring was conducted in March to April. In addition to the Professional Team members and the Project Experts, specialists of ITPD joined.

Table 3-25: Outline of the Fifth Lesson Study Monitoring

Model district/ <i>aimags</i>	Date	Group1		Group2	
Songino Khairkhan District	3-4 April and 23-29 April 2013	The Professional Team monitored 8 subjects at each model school.			
Bulgan <i>Aimag</i>	24-29 March 2013	Selenge School No.1 Khutag-Undur	Primary and Secondary Mathematics IT Integrated Studies Administrator	Gurvanbulag Khishig-Undur School No.1	Physics Chemistry Human and Environment Human and Nature
Zavkhan <i>Aimag</i>	15-22 April 2013	Chandmani-Erdene Songino Bayantes	Physics Chemistry Human and Nature IT Administrator	Shiluustei Zavkhanmandal Tosontsengel	Human and Environment Primary and Secondary Mathematics Integrated Studies Administrator

(7) Activities related with Output 4 "The environment to disseminate and establish the Teaching Methods in PRESET is improved."

1) Encouragement of Participation in International Conference on Lesson Study

In addition to the participation in the World Association of Lesson Studies 2012 International Conference as mentioned earlier, two members⁶ from Professional Team Members participated in Japan Society for Science Education National Conference in August 2013 held in Sapporo. They made the presentations and the poster session.

2) Establishment of Mongolian Association of Lesson Study

The plan for establishing the association called "Mongolian Association of Lesson Study" was explained in the First Lesson Study Conference on 16 August. The first executive meeting for establishment was held in 27 August. The following issues were agreed in the meeting.

⁶ M.Ganbat, J.Dulguun, M. Kamata "Education Problem Curriculum-Study in Physics Lesson and Teacher's Development", T. Amartaivan, J. Dulguun, A. Fukuchi, "Education problems, curriculum –What we know from the black box experiment?", and E. Munguntulga, A. Fukuchi "The Problems of Teaching and Learning Process of Natural Science at the Elementary School in Mongolia" (G.Punsalpaamuu^A, A.Perlee-Oidov, Ts.Khongorzul, E.Batchuluun, Ts.Ser-Od, E.Munguntulga "The Issues of Preparing Teacher of Natural Science in Mongolian State University of Education")

Name: Mongolian Association of Lesson Study

- Mission: Development of teaching and learning methods based on research
- Objective: Provision of support for improving quality of education through Lesson Study
- Activity:
 - 1) Study/Research
 - 2) Collaboration with schools and academics
 - 3) Advise on teachers' professional development
 - 4) Training, monitoring, and sharing of experience
 - 5) Information sharing, joint activities with other countries

ITPD offered an office space and promised to employ a Project staff as an employee for the ITPD to manage the association.

Chapter 4 Other Related Issues

4.1 Joint Coordinating Committee

(1) First Joint Coordinating Committee Meeting

The first Joint Coordinating Committee was held on 26 May 2011 and chaired by the Vice Minister of the MES to discuss and agree on the progress of the project activities in the first year, the training package development, the budget of the Mongolian side for the project implementation, confirmation of the Professional Team members, the indicators of the Project Design Matrix (PDM), and the project activities in the second year. The Project Coordinator, representatives from JICA Mongolia Office, and members of the National Team attended the meeting.

Regarding the indicators of the PDM, the attendees discussed the numerical targets of objectively verifiable indicators which have not been confirmed when the Project started. The indicator of Output 4 (“Incorporation of practice of the Teaching Methods as one of the criteria of the national teacher contest”) was deleted since some attendees pointed out that the teacher contest disturbed cooperation among teachers, and the reward was not appropriate for the child-centered teaching methods (see Attachment 6).

Besides the introduction of the second year project activities, the participants discussed how to sustain the project outcome.

(2) Second Joint Coordinating Committee Meeting

The second Joint Coordinating Committee was held on 21 September 2011 to review the achievements of the Project and to exchange views for further improvement of the Project.

The results of the midterm review are summarized below.

The Project has been implemented on the right track toward the Project Purpose and the Overall Goal. The capacity of the Professional Team has been developed, and they are now fully capable of implementing the Teaching Methods through Lesson Study. In addition, the members of the model district/*aimag* teams and the model school teachers were strongly motivated to practice the Teaching Methods through the Lesson Study.

On the other hand, the capacity development of stakeholders, especially in the non-model districts/*aimags*, needs to be seriously considered in terms of policy finance and human resources to achieve the Project Purpose and then the Overall Goal.

Based on the midterm review, the six recommendations as shown in the table were given.

Table 4-1: Recommendations and the Project Measures

	Recommendation	Project Measures
1	<u>Utilization of the Professional Team:</u> It is requested that the MES would take into consideration the Professional Team members’ skills and experiences gained through the Project activities for their career development and improvement of their working conditions (including travel and daily allowance).	<ul style="list-style-type: none"> The ITPD planned to utilize the Professional Team members as part of the “National Trainer Team” and its advisers. The Project certified some Professional Team members as “Expert”, “Adviser” or “National Trainer”, and some members of the district/<i>aimag</i> teams as “Regional Trainer” based on certain criteria.
2	<u>Nationwide Dissemination of the Teaching Methods:</u> To disseminate the Teaching Methods through Lesson Study nationwide, it is vital to strengthen the following system and relationships for the rest of the project period: (1) The functional system among the MES, Professional Team-DE-school, (2) the	<ul style="list-style-type: none"> Related with (2), Lesson Study monitoring was conducted by the model district/<i>aimag</i> teams for non-model district/<i>aimag</i> teams. This contributes to the Overall Goal. The equipment required for Skype was provided to the Professional Team, model district/<i>aimag</i>

	relationship between model districts/ <i>aimags</i> and non-model districts/ <i>aimags</i> , and (3) the relationship between the model schools and non-model schools. It is useful to utilize information and communications technology (ICT) such as Skype to communicate among the Professional Team, DE, and school teachers at remote schools that are difficult to access in wintertime.	DEs and model schools. However, Skype is not popular in Mongolia and some schools in <i>sum</i> have no stable internet connection.
3	<u>Strengthening the PRESET utilizing the Teaching Methods:</u> To disseminate the Teaching Methods nationwide, it is expected that the Project would focus on not only INSET but also PRESET for the rest of the project period. The Project should help teacher training colleges conduct activities such as teaching practice at the model schools and setting the regular class utilizing the training package in teacher training colleges.	The curriculum for teacher education institutions was developed.
4	<u>Showing evidence at the student level:</u> The main objective of the teacher training is to provide quality and effective lessons to students. The Project should show positive changes and impacts to learners by conducting quantitative and qualitative assessments based on clear evidence at the student level in cooperation with the MES.	The analysis was made on the change of the student's achievement in the test conducted by Zavkhan <i>Aimag's</i> DE.
5	<u>Sharing of knowledge and experiences among Asian countries:</u> The exchange programs/trainings with other Asian countries seem to be beneficial and stimulating for the Mongolian stakeholders. On the other hand, the Mongolian counterparts would provide their knowledge and experiences on Lesson Study to other countries. Thus, the exposure to other countries is quite useful for the Mongolian stakeholders in order to broaden their eyes, change their mindsets, and further develop their capacity.	<ul style="list-style-type: none"> • The technical exchange program with the JICA "Program for Enhancing Quality of Junior Secondary Education in Indonesia" was organized in May 2012. This technical exchange program enhanced the motivation of counterparts to present their practices to other countries. • The Project encouraged the counterparts to attend international conferences related with Lesson Study.
6	<u>Information sharing within the MES and with development partners:</u> The Project Team suggests that the MES share information, lessons learnt, and knowledge on the outputs of the Project within the MES and with other related government institutions and development partners. In addition, the joint knowledge sharing workshop/seminar among the MES, other related government institutions and development partners at the national level would be organized in the last year of the Project.	The first Lesson Study Conference was held in August 2013 and attended by some personnel from the MES and development partners.

Based on the results of the review and discussion with stakeholders, the PDM was revised and PDM₃ was developed. Major changes from the PDM₂ are shown in the following table.

Table 4-2: Revisions of the Project Design Matrix

Changes	Reasons for modification	Revised one
Super Goal	<ul style="list-style-type: none"> • To show the changes and impacts at the student level in the foreseeable future. • To align the direction of the Project with the MDGs/EFA. 	【Super Goal】 The learning achievement of primary and secondary students is enhanced.
Modification of the Overall Goal	The previous indicators are "Indicator 1: Fifty percent of schools in non-model districts/ <i>aimags</i> implement Lesson Study at least twice every year", and "Indicator 2: The training on the Teaching Methods is conducted in at least 50% of non-model districts/ <i>aimags</i> ". However, 50% of schools in non-model districts/ <i>aimags</i> cannot guarantee nationwide dissemination of the Teaching Methods	<p>Indicator 1: Sixty percent of all schools in the whole country implement Lesson Study at least twice every year.</p> <p>Indicator 2: The training on the Teaching Methods is conducted in all districts/<i>aimags</i>.</p>

	through Lesson Study.	
Modification of the indicators of the Project Purpose	<ul style="list-style-type: none"> To make the Project Purpose clear and concise. Original indicators do not guarantee the nationwide system for dissemination of the Teaching Methods. 	Indicator 1: The quality lessons utilizing the Teaching Methods for the eight subjects are practiced in the model schools.
		Indicator 2: Lesson Study is conducted at least twice in at least 70% of schools in the model districts/ <i>aimags</i> every year.
		Indicator 3: All districts/ <i>aimags</i> formulate their training plans on the Teaching Methods.
		Indicator 4: Political, financial and human resources commitments are made by the MES.
Modification of the indicators of Output 3	Original indicators do not guarantee Output 3.	Indicator 1: Seventy percent of teachers and management posts of all schools in the model districts/ <i>aimags</i> complete the training on the Teaching Methods based on the training package.
		Indicator 2: Eighty percent of all school in the model districts/ <i>aimags</i> formulate the Lesson Study implementation plan.
Modification of Output 4 and its indicators	To disseminate and solidify the Teaching Methods nationwide, the training package should be integrated into the PRESET system.	Output 4: The environment to disseminate and establish the Teaching Methods in PRESET is improved.
		Indicator 1: The Teaching Methods in the Training Package are introduced into the PRESET system.

(3) Third Joint Coordinating Committee Meeting

The third Joint Coordinating Committee was held on 18 October 2012 to agree on the results of the Joint Terminal Evaluation. The summary of the results are as follows:

- The Project Purpose has been mostly achieved. The capacities of teachers were strengthened through Lesson Study, which has contributed to enhanced teamwork among teachers, effective use of blackboard, development of lesson plan focusing more on children, and particularly creation of a culture of critical collaborative inquiry in school. Capacities of Professional Team and DEs were also strengthen to observe lessons and provide appropriate advice and comments to teachers.
- In addition, the MES stated that they will work out a concrete plan for continuous professional development of teachers in Mongolia, utilizing the ITPD as a core implementation agency. Such evidence and commitments show that the foundation for disseminating the Teaching Methods has been consolidated.
- It is foreseen that the Overall Goal will be fully achieved if the Teaching Methods through Lesson Study continue to be improved and disseminated by the Mongolian side. Currently, the model and non-model schools conduct Lesson Study not only for the eight subjects, but also other subjects. There are also positive impacts on students such as active participation in class, higher motivation to study, and so on. Some of the DEs in non-model districts/*aimags* conduct training and Lesson Study with their own initiatives and resources.

- On the other hand, understanding on the Teaching Methods and Lesson Study in non-model districts/*aimags* is not as high as that in the model district/*aimags*. Even the model district/*aimags* need to deepen their understanding on the Teaching Methods through Lesson Study. A concrete action plan for dissemination of the Teaching Methods needs to be developed by the ITPD in close collaboration with the MES.

In this regard, the Mongolian side requested JICA to extend the Project for a certain period of time to strengthen their capacity of disseminating the Teaching Methods. JICA agreed to extend the Project for six months, and the Record of Discussion between JICA and the MES was revised in January 2013.

(4) Fourth Joint Coordinating Committee Meeting

The fourth Joint Coordinating Committee was held on 26 August 2013 to agree on the results of Project at the end of the cooperation period and to discuss on the further activities by the Mongolian side.

The achievement of the Project was explained using the PDM. It was stated that the Project Purpose was achieved, and the Overall Goal would be achieved within three to five years after the Project period.

The Deputy Director of the ITPD explained that the ITPD plans to utilize the Project’s Professional Team members as “National Trainers”, and conduct trainings targeting 17,600 teachers (64% of all teachers in Mongolia) by 2015/2016. The ITPD also plans to reflect Lesson Study in their basic training. For example, the duration of the basic training for teachers with five years of experience was increased to ten days. Three days will be spent for Lesson Study.

Officer from the Policy, Strategy, and Planning Department of the MES reported that the MES drafted the Minister’s order for the teacher’s evaluation, and the implementation of Lesson Study was included as an item for evaluating teacher’s performance. The personnel also mentioned that the Module for Teacher Education Institutions would be used effectively in light of the ongoing Teacher Training Reform.

The Project Coordinator shared that the NGO, called the “Mongolian Association of Lesson Study”, would be set up by the Professional Team to promote research on teaching and learning, and collaboration among schools and universities.

4.2 Baseline Survey and Endline Survey

In order to examine the results and impacts of the Project, a baseline survey and an end line survey were conducted. The summary of each survey’s finding is as follows.

(1) Baseline Survey

From September 2010 to March 2011, MonEduc Consulting LLC conducted the baseline survey under a sub-contract with the Project. The main objective of this survey was to understand the current situation of the model districts/*aimags* in order to assess the impacts of the Project by comparing the results with that of an end line survey. The questionnaire survey, interviews and lesson observation were conducted not only in the model districts/*aimags* but also in non-model districts/*aimags* (Chingeltei District, Khuvsgul, and Uvs *Aimag*) as the controls.

Table 4-3: Survey Areas

DE	School
Basic information on districts/ <i>aimags</i>	Basic information of schools
Basic information on the DE	School management
Training conducted by the DE	School culture
Awareness and understanding on the Teaching Methods	Awareness and understanding on the Teaching Methods

The findings of this survey were as follows:

- There were no significant differences between the model district/*aimags* and non-model districts/*aimags*, and also between the model schools and non-model schools.
- On the other hand, big differences were observed between UB and the *aimags*, and also between the *aimag* center and *sum*. For example,
 - While Songino Khairkhan District and Chingeltei District have large numbers of students, the *aimags* have smaller numbers.
 - The schools in rural areas tried to improve the quality of education harder than the schools in UB. However, their physical conditions were not as good as of schools in UB and the *aimags*.
 - While each school in UB is being visited by the DE specialists approximately twice a year, some schools in the rural areas were not visited by specialists.
- According to this survey, 6.7% of the DE specialists have one year of teaching experience, while 23.3% had teaching experience of two to five years.
- Fifty percent of specialists and school administrators, and 70% of teachers have read the teacher's guidebooks developed in Phase I, and recognized that they were effective. However, the number of teacher's guidebooks was not sufficient and access to them was limited. Since the guidebooks did not directly correspond with the textbooks, some teachers felt the difficulty to utilize them in teaching.
- Regarding the Teaching Methods, the survey team brought up the following issues which need attention:
 - Generally, group work was applied in lessons, and teachers gave many questions to students. However, the questions from students to their classmates and teachers were very few.
 - Approximately 50% of teachers answered that they did not provide students the opportunity to assume, think the reason why they made mistakes, and why they happened. They explained that the lessons' contents were too much and it made teachers difficult to allocate more time for student's thinking.

Lesson Study is a tool to be easily adjusted with the characteristics of areas and schools. Therefore, the differences in school location in this survey were not expected to be a difficulty of the project implementation. The issues related with the teacher's guidebooks were also expected to be solved by the training within the framework of the Project.

On the other hand, the short teaching experience of the DE specialists and the limitation of school visits by them were recognized as the main issues in utilizing the existing teacher training framework. Furthermore, the comments of the survey team regarding the teaching methods showed the teachers' superficial understanding on the Teaching Methods.

(2) Endline Survey

The end line survey was conducted by the Mongolian Education Alliance from April to December 2012. It was conducted only one and a half year after the selection of the model districts/*aimags* and the model schools, and positive changes to the related personnel were reported.

The DEs, which have been considered a big issue in the baseline survey, changed in the following aspects in the model districts/*aimags*:

- Lesson Study was incorporated into the general planning of the DE's activities.
- The DE conducted a series of trainings covering all teachers (not only target subject teachers) so that the concept of Lesson Study is introduced to other subject teachers. Moreover, the model districts/*aimags* and district DEs conducted trainings to non-model

schools in collaboration with the model school team.

- The engagement of the DE in the discussion of the teaching method of teachers was increased. The baseline survey revealed that only under half of the DE specialists were reported engaging in such discussion, whereas it reached almost 62%, an increase of 13%, according to data from the end line survey.

Regarding the utilization of the teacher's guidebooks, the percentage of specialists who have read all guidebooks was higher in the model *aimags*. The highest percentage goes to Zavkhan *Aimag's* DE wherein 83% of the teachers have read the guidebooks. Only one-third of Chingeltei's DE specialists reported reading them.

As for changes at the school level, more personnel from the model schools recognized "the principal, training managers and teachers have a shared vision on how to improve teaching methods in the school" as compared with the baseline survey (all teachers in Khutag-Undur *Sum* School strongly agreed with this). On the contrary, the perception of teachers at the control schools varies. For most of the model schools, it is reported that the chance to observe the lesson was increased. The Teaching Methodology Units' activities have totally changed and went beyond what they used to be in terms of time spent, topics or issues discussed, and way of collaboration. The following changes in the model schools were also reported:

- Lesson Study was incorporated into many aspects of school that were related to school planning and evaluation.
- The fact that having trainers at school gave a boost to the image of the schools as well as to the responsibility of the teachers and school administrators.
- Student performance increased year by year. Lesson Study had positive impacts on the teaching methods and thus improving student performance. For instance, in Math, Physics, and Chemistry, more than half of the model school students got "A" and "B" marks, the two highest marks in Bulgan *Aimag*.
- The biggest change in the model schools that was highlighted was their understanding of the importance of collaboration and teamwork.
- The percentage of teachers who reported that students were happy to come to school was 40% higher in the model schools than that in the control schools.

4.3 Public Relations

(1) Website

In the first year, the Project website has been set up in the website of JICA's technical cooperation (<http://www.jica.go.jp/project/mongolia/004/index.html>), wherein some articles were uploaded. An article introducing the Project was also uploaded on the website of the MES (<http://www.edu.gov.mn/article-406.mw>).

In the second year, more articles were uploaded on the abovementioned website, and the teacher's guidebooks and videos developed in Phase I were prepared to be uploaded on the MES's website.

In the third year, the new website on Lesson Study was set up as supported by the MES. The Project Team provided the articles for both JICA's website and the Lesson Study website.

(2) Newsletter

The project newsletters were published as shown in the following table throughout the project period. The brochure introducing the Project was published (Mongolian: 1,000 copies, and Japanese: 200 copies) in the first year.

Table 4-4: Newsletter

Year	Number	No. of Copies	Month of Issue
First year	No. 1: Mongolian	1,000	March 2011
	No. 1: Japanese	100	
Second year	No. 2: Mongolian	1,000	August 2011
	No. 2: Japanese	100	December 2011
	No. 3: Mongolian	1,000	
	No. 3: Japanese	100	
Third year	No. 4: Mongolian	1,000	June 2012
	No. 4: Japanese	100	November 2012
	No. 5: Mongolian	1,000	
	No. 5: Japanese	100	
Extended period	No. 6: Mongolian	1,000	February 2013
	No. 6: Japanese	100	August 2013
	No. 7: Mongolian	1,000	
	No. 7: Japanese	100	

(3) Newspaper

Articles introducing the Project were published in “Unuudur”, a national newspaper, and also in “Teacher Newspaper”, in the first and second years.

In the third year, articles on the project activities appeared on the newsletter of Bulgan *Aimag*'s DE, and seven examples of research lessons conducted by the model schools were serialized in the “Teacher Newspaper”.

4.4 Collaboration with Other JICA Cooperation Schemes and Other Development Partners

(1) Collaboration with JICA Volunteers

In the first year of the Project, a group of JICA volunteers called “*Jissen no kai*”, and the Project Team exchanged opinions on their collaboration. Based on the policy of *Jissen no kai*, “the volunteer gives the highest priority on her/his own activities”, the Project side provided some information related with the project activities such as training and Lesson Study monitoring. Some volunteers gave positive feedback on the mutual communications between the Project side and the volunteers.

However, the members of *Jissen no kai* belonged to various organization in Mongolia and their background, experience, language ability, and interest were also diversified. The Project was not able to deal with *Jissen no kai* as a solid organization.

The collaboration between the JICA volunteers and the Project can be classified into four categories.

Table 4-5: Collaboration with JICA Volunteers

Categories	Time	Collaboration Activities
Exchange of Information	September 2010	Exchanged opinions with <i>Jissen no kai</i> .
	December 2010	Held a meeting with volunteers assigned at School No. 4 in Selenge <i>Aimag</i> .
	March 2011	Exchanged opinions with <i>Jissen no kai</i> . Held a meeting with volunteers assigned at School No. 4 in Selenge <i>Aimag</i> .
	April 2012	Exchanged opinions with <i>Jissen no kai</i> .
Participation of the Project Activities as Observer	November 2010	Accepted two volunteers during the training in Songino Khairkhan District. Invited teachers of the model schools to the JICA Volunteer Seminar.
	February to March 2011	Accepted five volunteers during Lesson Study monitoring in Songino Khairkhan District and Zavkhan <i>Aimag</i> .
	September to October 2012	Accepted some volunteers during the Lesson Study monitoring in Songino Khairkhan District and Bulgan <i>Aimag</i> .

	November 2012	Accepted four volunteers during the training in <i>Bulgan Aimag</i> .
	March to April 2013	Accepted three volunteers during the Lesson Study monitoring in Songino Khairkhan District and <i>Bulgan Aimag</i> .
Lesson Observation	November 2011	Invited teachers of the model schools to observe “Human and Nature” lesson by the volunteer at the Education Complex School in Baganuur District.
	December 2011	Invited teachers of the model schools to observe Physics lesson by the volunteer at the Setgemj Complex School in Bayangol District.
	April 2012	Invited teachers of the model schools to observe Biology lesson by the volunteer and his counterpart.
	May 2013	Visited the school of the ex-volunteer with the participants of training in Japan to observe Science lessons.
Training	June 2012	Conducted Research lessons in cooperation with the volunteers assigned at the Mongolia State University of Education, the Setgemj Complex School and School No. 97.
	November 2012	Invited two volunteers and their counterparts as trainers within the framework of the Project.
	January to June 2013	Invited three volunteers as trainers for the seminar on Primary Mathematics.

Lesson observation was a good form of collaboration between the Project and the JICA volunteers since both sides have merits. Teachers of the model schools could have a clear image of the child-centered lesson by observing the lesson of the volunteer; while the visits of external observers made the counterparts of the volunteers notice the lessons of the volunteer as a good learning opportunity.

The activities done by the volunteers and their counterparts can be considered as good practices. These opportunities contributed to the learning of both the model schools’ teachers and the counterparts from the volunteers.

To make the collaboration between the JICA volunteers and the Project sustainable, the cooperation should be within the original assignment of both parties.

(2) Collaboration with Other JICA Schemes

The members of the “Sustainable use of ICT for improving the quality of primary education in rural Mongolia”, under the JICA Grassroots Partner Project, joined the Lesson Study monitoring in March 2012.

The Project briefed the participants about the Project activities during the Grassroots Partner Project’s training conducted in September 2012.

(3) Collaboration with Other Development Partners

The officers from the First Track Initiative of the World Bank and the World Vision attended the first Lesson Study Conference held in August 2013.

Chapter 5 Tips for an Effective Project Implementation and Recommendations to the Mongolian Side

5.1 Tips for an Effective Project Implementation

The Project is aimed at strengthening systems to disseminate the Teaching Methods nationwide by utilizing the existing teacher training framework (Project Purpose). The existing teacher training framework considered at the time of discussion between the MES and JICA referred to the teacher training scheme for such as a five-year experience teacher, and a ten-year experience teacher training stipulated in the Minister's Order No. 72 of 2008. It was considered effective to develop a simple but easy to understand Training Package (training materials and training program) based on the teacher's guidebooks developed during Phase I. At the same time, it was considered necessary to develop trainers who can utilize the Training Package to conduct the teacher training in the framework.

However, the teacher training stipulated in the Minister's order was not conducted as planned due to financial and organizational constraints. In implementing the Project, the following arrangements were made in consultation with the MES and with the model districts/*aimags*:

(1) Arrangement Made at the Model Districts/*Aimags* for Dissemination of the Teaching Methods

Initially, the following cascade-method training was considered effective for disseminating the Teaching Methods: (1) from the professional team to the district/*aimag* teams, (2) from the district/*aimag* teams to the core school in each region within *aimag*, and (3) the core schools to neighboring schools. The Project tried to provide direct inputs to the district/*aimag* teams and the model schools as much as possible because: (1) it was considered not easy to set up appropriate district/*aimag* teams, and (2) a five-day training is not sufficient for training district/*aimag* teams to reach an adequate level.

1) Increased Number of Training Participants

In November 2010 of the first year, all the model school teams were invited to the training, which were not limited to the model district/*aimag* team members as planned at the design stage of the Project. Thus, 11 participants from each of the model schools attended the training and were given direct inputs from the Professional Team members.

However, in most of the model schools, a gap of understanding on the Teaching Methods between the teachers who attended and did not attend the training organized in the Project was noted. It was necessary to mitigate a misunderstanding that "Lesson Study is the responsibility of teachers who participated in the project activities". Therefore, the teachers who did not participate in the training before have been invited to participate in the trainings, which were held in November of the second and third years. Eleven teachers participated in the second year's training, and ten in the third year's training.

Ownership for the teaching method improvement increased in the model schools because of this arrangement. Thus, highly motivated teachers started conducting school-based Lesson Study. In Zavkhan *Aimag*, the number of *aimag* team members was not limited to 11. Most Zavkhan *Aimag*'s DE specialists were able to belong to *aimag* team and they actively visited the schools and conducted training.

A cascade-method is an efficient method of dissemination. However, it is necessary to take measures not to divide the teachers into two groups.

2) Lesson Study Monitoring by Professional Team Members

Lesson Study monitoring was scheduled once a year in February to March. Monitoring is

designed to see how each model school implement the Lesson Study. Thus, the monitoring members from UB, specialists from the DE, and teachers of the model schools considered the monitoring as evaluation of the model schools. As it was not easy for the model schools to have visitors from the outside and to receive advice on the Lesson Study, the Project used this opportunity to provide advice on the Lesson Study implementation process rather than evaluation. The monitoring was conducted twice a year. The Professional Team members visited the model districts/*aimags* five times during the project period.

Many of the model schools tried to invite teachers from neighboring schools when the monitoring members from UB visit their schools.⁷ This seemed to have contributed to the dissemination of the Teaching Methods to non-model schools.

Teachers can improve their teaching method within their own school. However, it is important to get an external observer's comment and advice. Otherwise, comments and advice will be superficial and less effective.

The continued collaboration between university teachers and the DE will be useful. In order to conduct monitoring in *aimags*, it is necessary to secure transportation costs.

3) Training in Japan

The Project organized training in Japan targeting people from the model districts/*aimags* twice. In addition to the Project's training in Japan, the model schools and other concerned personnel participated in the training organized by JICA.

In Mongolia as well, there is a saying "seeing is believing". Three teachers or school administrators from each school participated in the training in Japan. It contributed a lot to the development of Lesson Study in the model schools.

The importance and functions of school-based Lesson Study, and blackboard management were the two major issues that were well-recognized by the participants of the training in Japan.

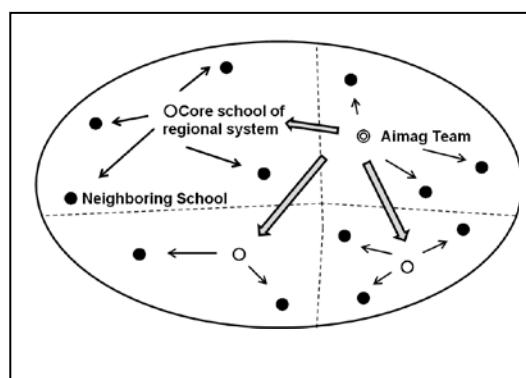
(2) Arrangement Made for Dissemination of Teaching Methods Nationwide

The Project conducted activities for the dissemination of the Teaching Methods nationwide by utilizing the experience in the model districts/*aimags*. The dissemination model in the model *aimags* (organize the *aimag* team, make them play the role as regional trainers, train the core schools, make the core schools disseminate other schools) was cascade, and it can be applied to most *aimags* in general. However, as districts have different structures, the dissemination model in UB needed to be modified in the second year.

1) Dissemination Activities in *Aimags*

To maximize the effect of the training targeting the district/*aimag* teams of all districts/*aimags* stated from the second year, six training venues were set. Since each district/*aimag* team joined the training at the district/*aimag* which has similar characteristics, the contents of training became more practical and the cooperation among regions was enhanced.

The dissemination process at each *aimag* is shown in the figure. However, in Dornod and some *aimags* located in the Govi area, the



⁷ DEC personnel from Gobi-Altai (March 2012), and Khovd as well observed the monitoring activities in Zavkhan.

schools are scattered and it may be difficult to utilize a regional system within *aimags*. It may be more reasonable to conduct training at an *aimag* center.

Originally, the Project was planned to have the training targeting the district/*aimag* teams of all districts/*aimags* as only one input for non-model *aimags*. However, the mid-term review team pointed out that trainings conducted twice would not ensure the achievement of the Overall Goal, and recommended to strengthen the relation between the model *aimags* and non-model *aimags*. Based on this recommendation, the Project Team organized training and Lesson Study monitoring for non-model *aimags* in cooperation with the model *aimags*.

In addition to the intervention with the model areas, some extent of intervention such as training and Lesson Study monitoring was effective to accelerate the dissemination process in non-model *aimags*.

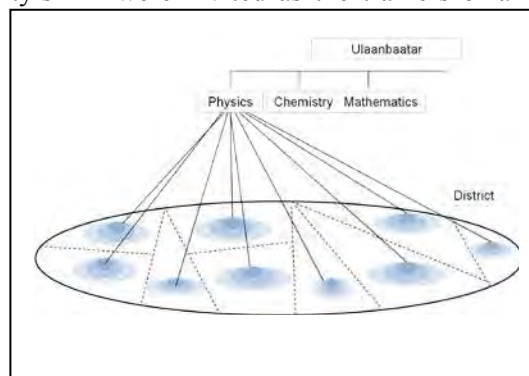
2) Dissemination Activities in UB City

A model district was planned to be utilized as the core to disseminate the Teaching Methods in UB at the beginning of the Project. However, the DE at the district level has a smaller capacity than the *aimag* DEs; therefore, it was difficult for it to become a host of the training at the city level.

Therefore, the specialists and trainers from UB City's DE were invited as the trainers of all district teams in the second and third years. They conducted the training utilizing the resources of Songino Khaikhan District.

In UB City, training is conducted subject-based in general. Each specialist is in charge of a subject and trains the district trainers at each district. They call on the district trainers and other teachers of respective subjects from the nine districts to conduct the training.

UB City's DE was a good partner to work with, however the scale of the department did not correspond with their duties.



5.2 Recommendations to the Mongolia Side

Based on the lessons learnt during the Project implementation and the opinions gathered from the workshop to formulate the teacher's training plan organized in September 2013, the following recommendations were developed in order to continue the teaching methods improvement in Mongolia:

(1) Recommendation to Improve the Teacher's Profession

1) Appointment of Specialists

The specialists of the DE are responsible to instruct the schools on teaching and learning as well as school management. The MES Minister's Order A/287 issued on 9 August 2013 stated that the DE would organize training for teachers with two, three, and four years of experience, respectively. Since the teachers in *aimags* have less opportunity to receive instructions and advice from research institutes and universities, the specialist would be a significant instructor and an information resource for them.

Specialists are appointed by the head of the DE based on criteria such as educational background and teaching experience. However, the baseline survey revealed that the teaching

experience of some specialists was not sufficient (one-third of respondents have less than five years of teaching experience). Also, critical comments on the knowledge and skills of the specialist were often heard from the school side.

In order to solve these problems, clear guidelines by the MES on the specialist's appointment are required, and the criteria of specialists should be observed strictly. At the same time, a system to upgrade the capacity of specialists should be established. For instance in Japan, the position of a specialist is not fixed. The personnel who would be the administrator should experience this position as a career path. Exchange of personnel between the DE and schools have an effect on the capacity building of specialists.

If the system to appoint young people as specialists is established, it is necessary to ensure the purpose and significance of the system. For instance, Tokyo City renewed the appointment system for administrator and set two selections: (1) Selection A for young teachers, above 32 years old with more than seven years of teaching experience, and (2) Selection B for middle-aged teachers above 39 years old with more than 12 years of teaching experience. The purpose of Selection A is to train the education specialist as future administrator, and successful candidates are appointed as specialist of the board of education for five years⁸.

In addition, UB is a city of more than 1.2 million people and contains 206⁹ schools. However, UB City's DE has only 13 specialists as of August 2013. Although the plan to add to the staff of the department from 35 to 47 has been undertaken, the number would still be too small to provide enough instructions to each school. The transfer of duties to the district DE or drastic expansion of UB City's DE is required.

2) Continuing Lesson Study Monitoring

During the project implementation, the Professional Team monitored the Lesson Study in both the model schools and non-model schools. Also, the model *aimag* teams monitored the Lesson Study in non-model *aimags*.

Each school made great efforts to maximize the effects of the Lesson Study through collaboration between primary and secondary teachers, involvement of teachers of various subjects, and inviting teachers from other schools. However, the effects of the Lesson Study are expected to remain stagnant if the new points of view are not provided by the participants. Therefore, the Lesson Study monitoring by the Project was welcomed by schools especially in the rural areas which have lesser opportunities to receive instructions and advice from external observers.

The Lesson Study monitoring requires budget for transportation and allowance for practitioners; however, accommodation and meals can be covered by schools. Such can be utilized as a learning opportunity for teachers in neighboring schools.

It is recommended that the Lesson Study monitoring by the specialists, lecturers of universities or skilled teachers are continued after the termination of the Project.

3) Demanded Training Fields

The demands of training on the following fields are found during the Project:

a. Upgrading the Knowledge and Skills for Primary Science

In primary education in Mongolia, the lessons called "Human and Environment" and "Human

⁸ Reports on the discussion of educational administrator's appointment in 2008
<http://www.metro.tokyo.jp/INET/KONDAN/2008/07/DATA/40i7o901.pdf>,

⁹ Ministry of Education, Culture and Science "Statistical Year Book Education, Culture, Science and Technology", UB, 2012.

and Nature” are set as basis for Science education. However, primary teachers in general are not good in Science. They said that they did not know how to conduct experiments and observations, though they understand the importance of such activities. Some teachers often provided students with wrong information based on their misconceptions (for example, a teacher explained that the temperature depends on the distance of land from the sun).

Since references are limited, a website is a good tool to disseminate information or examples of experiments and observations and to be utilized for easy access of materials to teachers. However, it should be noted that there are teachers who cannot understand the reason why experiments or observations are conducted, how to let students assume and conclude the results, and how to safely conduct these activities. The training should discuss these points clearly.

b. Improving the Understanding of Administrators

School administrators, especially training managers, are expected to train the teachers, but it is difficult for them to improve their teaching methods through their daily activities. It is because the training managers are not allowed to teach lessons in the current regulation. Some administrators concentrate on their administrative jobs too much and are not able to understand the situation of teachers. These are the reasons why training on improving the understanding of administrators on the Teaching Methods is required.

During the project implementation, a training module for administrators has been developed, and trainings were organized from it. Selenge *Aimag*'s DE conducted training targeting the administrators of Selenge *Aimag*, Orkhon *Aimag*, and Dorno Govi *Aimag* in January 2013. Its participants commented that they understood how lesson preparation is important for a good lesson. Also, the school administrators participated in the training in Japan in the second and third years, and such training had great impacts on the improvement of the teaching methods in the model schools. These examples revealed that the inputs toward the administrators encouraged them to have a common vision with teachers and to give support to the teachers.

4) Effective Utilization of Lesson Study

The subject-based Lesson Study was conducted during Phase I in order to develop the Teaching Methods and improve teachers' skills, while the school-based Lesson Study was implemented during the Project. The school-based Lesson Study involves both administrators and teachers to set the theme of study based on the school objectives, and the school itself engages the teaching methods improvement.

In order to continuously improve the quality of lessons, it is recommended that the utilization of both the subject-based Lesson Study and the school-based Lesson Study is balanced in Mongolia. The teachers in charge of the same subjects can conduct effective Lesson Study to improve the teaching methods of respective subjects as well as promote good practices. On the other hand, the school-based Lesson Study can be used as a tool to realize the school objectives and, by the same the principles of education are shown in the standard.

However, the school side often commented that the distributed budget for lesson implementation is insufficient to sustainably implement Lesson Study. Further discussion on the budget is expected.

To promote the Lesson Study, one way is to adopt a pilot school system. In Japan, there are many organizations, such as the Ministry of Education, Culture, Sports, Science and Technology, the National Institute for Education Policy Research, the boards of education at the prefecture, city and town levels. If a school is interested in being a pilot school, it needs to choose one theme among the themes held up by these organizations and submit a research proposal to the respective organization. If the proposal is accepted, that school can receive technical advice and subsidy for the research for one to three years.

Such pilot school system is not fixed only to a few schools but the opportunity is provided to all schools. This system can be applied to examine to research on the adoption of the national curriculum and textbook at the school level.

(2) Recommendations to Upgrade Teacher's Professionalism

Professionalism, in short, is to be a professional, such as a doctor or a lawyer. A teacher's professionalism is not fostered by conducting lessons by simply following textbooks or teacher's guidebooks and also by compulsory training. It is acquired by learning and deepening the knowledge and skills in his/her own initiative. It is a key for development of the teacher.

In Japan, the importance of teacher's professionalism had been discussed from the 1960s to the 1970s. The treatment of teachers was improved to a certain extent. However, some researchers pointed out that professionalism is being degraded by surplus instructions from upper organizations to improve teacher's knowledge and skills.

Teacher training is expressed in the Mongolian language as "the training for upgrading of the teacher's profession". It shows that a teacher is recognized as a professional in Mongolia. However, the situation might have changed. Some students feel that to be a teacher there is no other choice but to enter a teacher education institution.

For quality education, the upgrading of teacher's professionalism as well as upgrading of professionals should be given attention to. In this regard, there are two recommendations, as follows:

1) Preparation for School Environment

One of the obstacles for a teacher's development is the space in school. There is a room in a school called "teacher's development center"; however, there is no private desk for each teacher. Most teachers do not have a place to stay in school after finishing their shift. They have no other choice but to engage in other work not related to teaching and learning, or to go home.

It is recommended that an adequate room is set up and a private desk is provided to each teacher so that they can spend more time and effort to develop themselves for the learning of their students.

2) Promotion of Study

To upgrade teacher's professionalism, it is important to motivate and create an attitude of teachers toward study/research.

The first Lesson Study Conference, held on 15-16 August 2013, was one of the opportunities given to teachers to present the results of their studies based on their teaching practices. Since this conference gets the teacher's motivation and interest on research activities, such as reviewing their own practice, finding out the problems and its solutions, it is recommended to hold such a conference annually.

It was highly appreciated that the MES issued various Minister's orders to support the Lesson Study initiatives and the nominated the capable and dedicated Project Coordinators.

It is expected that the GOM and the MES would continue the measures mentioned above. The Project Team wishes all the success for further improvement of the quality of primary and secondary education.

Chapter 6 Inputs to the Project

6.1 Project Experts

Seven experts, as listed in the table below, were assigned to the Project. The assignment schedule of these experts is given in Attachment 9.

Table 6-1: Project Experts

Designation	Name
Project Manager/Training Planning 1	Tetsuya Ishii
Training Planning2/Monitoring and Evaluation	Sayaka Suzuki
Dissemination of Teaching Method (Science)	Masahiro Kamata
Dissemination of Teaching Method (Mathematics)	Hiroshi Takahata
Dissemination of Teaching Method (Science/Integrated Studies)	Akiteru Fukuchi
Dissemination of Teaching Method (IT)	Shuu Matsuura
Training Implementation/Lesson Study Assistant	Khisgbayar Badamsambu

6.2 Equipment

The list of equipment provided by the Project is shown in Attachment 10.

In the first year, the Project Team provided video cameras to the model schools. The model schools then started shooting the trainings and research lessons.

In the third year, blackboards were provided to the model schools. It contributed a lot to the improvement of teaching methods. Some participants of the training in Japan showed interest in blackboard management. Then, many of the model schools conducted a school-based Lesson Study focusing on blackboard management and children's notebook writing.

6.3 Training Abroad (Japan and Indonesia)

In the first year, eight people from the MES, Institute of Education, National University of Mongolia, and Mongolia State University of Education participated in the training in Japan. The objectives of the training were as follows: to learn the teacher training framework in Japan, teacher training within school, and practices of Lesson Study. The training was conducted for two weeks in October 2012.

Table 6-2: List of Trainees in the First Year Training in Japan

No.	Name	Designation, Organization
1	N. Nergui	Senior Officer, General Education Department, MES
2	U. Tsendsuren	Senior Specialist, UB City's DE
3	Sh. Oyuntsetseg	Researcher and Project Coordinator, Institute of Education
4	Y. Munkhsaikhan	Lecturer, School of Physics and Technology, Mongolian State University of Education
5	T. Dalajamts	Head of Department, Department of Mathematic Didactic and Geometry, Mongolia National University
6	L. Choijoovanchig	Professor and Director of School, Computer Science and Information Technology School, Mongolia State University of Education
7	B. Oyuntsetseg	Head of Department, Department of Education Study, Mongolia State University of Education
8	N. Oyuntsetseg	Professor, Department of Organic Chemistry, Mongolia National University

In the second year training, specialists from the DE, training managers, and teachers were invited to Japan. The objectives for the specialists from the DE were: (1) to understand the child-centered teaching method and (2) to understand the in-service training system for teachers in Japan including training by the board of education, university, and schools. The objectives for the training managers and teachers were: (1) to understand the child-centered teaching method

and (2) to understand the in-house training including Lesson Study in schools in Japan. The following 22 personnel attended the training for two weeks from the end of September 2011.

Table 6-3: List of Trainees in the Second Year Training in Japan

No.	Name	Designation, Organization
1	B. Tsogbadrakh	Physics and IT Specialist, UB City's DE
2	Ch. Gereltsetseg	Specialist, Primary Education, Songino Khairkhan District, UB
3	Ch. Enkhtusetseg	Teacher, Ireedui Complex School, UB
4	L. Purevdolgor	Teacher, School No. 12, UB
5	O. Tsendsuren	Training Manager, School No. 67, UB
6	T. Urantsetseg	Specialist, Primary Education, Bulgan <i>Aimag</i> DE
7	M. Odontungalag	Specialist in charge of Mathematics, Bulgan <i>Aimag</i> DE
8	B. Nandinerdene	Teacher, Physics, School No. 1, Bulgan <i>Aimag</i>
9	D. Erdenechimeg	Teacher, Gurvanbulag <i>Sum</i> School, Bulgan <i>Aimag</i>
10	J. Byambasuren	Training Manager, Khishig-Undur <i>Sum</i> School, Bulgan <i>Aimag</i>
11	J. Ariunaa	Teacher, Khutag-Undur <i>Sum</i> School, Bulgan <i>Aimag</i>
12	B. Enkhtaivan	Physics Teacher, Selenge <i>Sum</i> School, Bulgan <i>Aimag</i>
13	Ya. Narangerel	Specialist in charge of Science, Zavkhan <i>Aimag</i> 's DE
14	B. Lkhamragchaa	Specialist, in charge of Primary Education, Zavkhan <i>Aimag</i> 's DE
15	D. Oyuntsetseg	Teacher, Bayantes <i>Sum</i> School, Zavkhan <i>Aimag</i>
16	A. Demberelnyambu	Training Manager, Chandmani-Erdene Complex School, Zavkhan <i>Aimag</i>
17	E. Javzansuren	Physics Teacher, Shiluustei <i>Sum</i> School, Zavkhan <i>Aimag</i>
18	S. Batgileg	Mathematics and IT Teacher, Songino <i>Sum</i> School, Zavkhan <i>Aimag</i>
19	B. Otgonjargal	Mathematics Teacher, Tosontsengel <i>Sum</i> School, Zavkhan <i>Aimag</i>
20	S. Davaabayar	Teacher, Zavkhanmandal <i>Sum</i> School, Zavkhan <i>Aimag</i>
21	G. Norjmaa	Project Team Staff
22	Kh. Ganbaatar	Project Team Staff

In the third year, the training in Japan and the technical exchange with Indonesia were conducted.

The training in Japan was conducted in June 2012 for two weeks. The objectives of the training were: (1) to enable the participants to adequately see “lesson”, “children”, and “teaching and learning materials” through observing the lessons conducted by teachers in Japan, (2) to equip the participants with good understanding on *Kyozai Kenkyu*, and (3) to understand how Japanese teachers improve their teaching skills within schools (school-based Lesson Study). The following 21 personnel from the MES, principals, and training managers participated in the training.

Table 6-4: List of Trainees in the Third Year Training in Japan

No.	Name	Designation, Organization
1	J. Enkhtuvshin	Senior Expert, MES
2	D. Enkhtuya	Training Manager, Setgmj Complex School, UB
3	Ts. Namjildorj	Principal, School No. 45, UB
4	D. Narantsatsralt	Principal, School No. 12, UB
5	D. Amarkhuu	Training Manager, School No. 67, UB
6	D. Dolgorsuren	Training Manager, Ireedui Complex School, High School No. 1, UB
7	L. Bayarsaikhan	Principal, Chandmani-Erdene Complex School, Zavkhan <i>Aimag</i>
8	D. Balsantseren	Teacher, Songino <i>Sum</i> School, Zavkhan <i>Aimag</i>
9	B. Oyungerel	Principal, Zavkhanmandal <i>Sum</i> School, Zavkhan <i>Aimag</i>
10	N. Tsetsegbadam	Training Manager, Bayantes <i>Sum</i> School, Zavkhan <i>Aimag</i>
11	Ts. Otgonjargal	Training Manager, Tosontsengel <i>Sum</i> School, Zavkhan <i>Aimag</i>
12	A. Garamsuren	Training Manager, Shiluustei <i>Sum</i> School, Zavkhan <i>Aimag</i>
13	D. Zoosuren	Principal, School No. 1, Bulgan <i>Aimag</i>
14	B. Dashdavaa	Training Manager, Gurvanbulag <i>Sum</i> School, Bulgan <i>Aimag</i>
15	Ch. Alimaa	Principal, Khishig-Undur <i>Sum</i> School, Bulgan <i>Aimag</i>
16	P. Oyunchimeg	Training Manager, Khutag-Undur <i>Sum</i> School, Bulgan <i>Aimag</i>
17	T. Dorjderem	Teacher, Selenge <i>Sum</i> School, Bulgan <i>Aimag</i>
18	D. Narantuya	Specialist, DE, Selenge <i>Aimag</i>

19	D. Narantuya	Teacher, School No. 4, Selenge <i>Aimag</i>
20	J. Bumtuya	Specialist, Dornod <i>Aimag</i> 's DE
21	G. Budtuya	Principal, Khan-uul Complex School, Dornod <i>Aimag</i>

The training in Japan was also organized during the extended period of the Project. The training in Japan was also conducted in May 2013 to provide the participants with understanding on Japanese educational system.

Table 6-5: List of Trainees in the Third Year's Educational System Training

No.	Name	Designation, Organization
1	S. Batsukh	Advisor to the Minister, MES
2	Ch. Gantsetseg	Specialist, Preschool and Primary Education, MES
3	J. Narantuya	Specialist, Strategy/Policy Formulation Department, MES
4	D. Munkhjargal	Vice-Rector, Mongolia State University of Education
5	G. Bayarmaa	Researcher, Education Standard, Institute of Education
6	D. Tuvshinjargal	Researcher, Education Standard, Institute of Education
7	M. Baasankhuu	Researcher, Education Policy/Strategy, Institute of Education
8	Kh. Tsetsegjargal	Researcher, Education Policy/Strategy, Institute of Education
9	U. Tuya	Researcher/Team Leader, Textbook and Learning Environment, Institute of Education
10	S. Tsogbadrakh	Researcher, Textbook and Learning Environment, Institute of Education

The training in Japan was also organized for the ITPD from the end of May to June 2012. The objective was to provide the participants with knowledge on the teacher training practice in Japan.

Table 6-6: List of Trainees in the Third Year Teacher Training Practice

No.	Name	Designation, Organization
1	G. Suglegmaa	Director, ITPD
2	O. Oyuntungalag	Deputy Director, ITPD
3	Ts. Narantuya	Specialist, Science/Primary Education Training, ITPD
4	D. Enkhtulga	Specialist, Mathematics Education Training/Primary Education, ITPD
5	M. Oyunchimeg	Specialist, Biology Training, ITPD
6	N. Sainbayar	Specialist, Physics Education Training, ITPD
7	D. Oyunbileg	Director, Science Education Training, ITPD
8	E. Davaakhuu	Specialist Biology Education Training, ITPD
9	R. Tuya	Specialist, Management Training, ITPD
10	C. Gajiddulam	Specialist, Social Study Education, ITPD

The technical exchange program with JICA "Program for Enhancing Quality of Junior Secondary Education in Indonesia" was organized in May 2012. The following 11 personnel participated in the technical exchange program.

Table 6-7: List of Participants in the Technical Exchange Program

No.	Role in the Project	Name	Designation, Organization
1	Ministry of Education, Culture and Science	B. Erdenechimeg	Specialist of Policy on Primary Education Standard and Curriculum, MES
2	Institute of Education	Sh. Oyuntsetseg	Researcher of the Institute of Education
3	Chemistry Professional Team	Ch. Nyamgerel	Lecturer of Chemistry and Engineering School, Mongolia National University
4	Primary Mathematic Professional Team	D. Enkhtsetseg	Director of Teachers' School, Mongolia State University of Education
5	Secondary Mathematic Professional Team	J. Chogmaa	Training Manager of High School No. 2, Ireedui Complex School, Songino Khairkhan District, UB
6	DE, Selenge <i>Aimag</i>	L. Suvdaa	Senior Specialist, Head of Training Sector, Selenge <i>Aimag</i> 's DE
7	DE, Dornod <i>Aimag</i>	Kh. Bayasgalan	Specialist of Science Education, Dornod <i>Aimag</i> 's DE
8	DE, UB	U. Tsendsuren	Senior Specialist, UB City's DE
9	DE, Bulgan <i>Aimag</i>	E. Tuvshinmunkh	Specialist of Statistics, Monitoring and Evaluation, Bulgan <i>Aimag</i> 's DE
10	DE, Zavkhan <i>Aimag</i>	Ya. Narangerel	Head of Training Section, Zavkhan <i>Aimag</i> 's DE

11	Project Team	Kh. Ganbaatar	Project Team Staff
----	--------------	---------------	--------------------

6.4 Reports and Training Package

Table 6-8: List of Prepared Reports and Training Package

Year	Name	Submission Date	Number of Copies
First Year	Inception Report (IC/R)	April 2010	Japanese: 5 English (Summary): 5 Mongolian: 5 CD-ROM (Japanese, English, Mongolian)
	Progress Report Vol. 1	September 2010	Japanese: 5 Mongolian: 5 CD-ROM (Japanese, Mongolian)
	Training Package	March 2011	Japanese: 5 English (Summary): 1 Mongolian: 1 Mongolian version for Training: 70 CD-ROM (Japanese, English, Mongolian)
	Baseline Survey Report	March 2011	Japanese: 5 English: 5 Mongolian: 5 CD-ROM (Japanese, English, Mongolian)
	Project Completion Report (First Year)	March 2011	Japanese: 5 CD-ROM (Japanese)
Second Year	Progress Report Vol. 2	September 2011	Japanese: 5 Mongolian: 35 CD-ROM (Japanese, Mongolian)
	Project Completion Report (Second Year)	December 2011	Japanese: 5 CD-ROM (Japanese)
Third Year	Progress Report Vol. 3	September 2012	Japanese: 5 Mongolian: 35 CD-ROM (Japanese, Mongolian)
	Endline Survey Report	January 2013	Japanese: 5 English: 5 Mongolian: 5 CD-ROM (Japanese, English, Mongolian)
	Progress Report Vol. 4	February 2013	Japanese: 5 Mongolian: 35 CD-ROM (Japanese, Mongolian)
	Training Package	August 2013	Japanese: 5 English (Summary) : 1 Mongolian: 1 CD-ROM (Japanese, Mongolian)
	Final Report	September 2013	Japanese: 5 English: 5 Mongolian: 5 CD-ROM (Japanese, English, Mongolian)

Attachment 1

List of Professional Team Members

Name list of Professional Team Member

(Based on Ministry Order No. 575 of 2010 and No. 428 of 2011)

No.	Professional Team Member	Position and Organization
“Physics” Professional Team		
1	M. Ganbat	Teacher, School of Physics and Electronic, Mongolia National University
2	J. Dulguun	Engineer teacher, School of Physics and Electronic, Mongolia National University
3	M. Enkhbayar	Physics teacher, “Ireedui” Complex School, UB
4	Ya. Munkhsaikhan	Teacher, School of Physics and Technology, Mongolia State University of Education
5	S. Batchuluun	Physics teacher, School No. 97, UB
6	B. Ariunbayar	Researcher, Institute of Education
7	P. Munkhbayar	Teacher, School No. 45, UB
8	D. Oyuntungalag	Teacher, “Setgemj” Complex School, UB
9	G. Bayanchimeg	“Tsakhim” College
10	B. Badam	Master course student, Teaching Method Research Center (МДССТ), Mongolia National University
“Chemistry” Professional Team		
1	Ch. Nyamgerel	Teacher, School of Chemistry, Chemistry and Engineering, Mongolia National University
2	P. Lkhagvasuren	Chemistry teacher, “Hobby” School, UB
3	Sh. Sainbileg	Teacher, School of Chemistry, Chemistry and Engineering, Mongolia National University
4	Ts. Otgonbayar	Chemistry teacher, “Gyote” School (Secondary), UB
5	Z. Uransaikhan	Chemistry teacher, “Sant” School, UB
6	P. Norovsuren	Chemistry laboratory teacher, Mongolia State University of Education
7	G. Bayarmaa	Researcher, Institute of Education
8	D. Munkhjargal	Science specialist, Department of Education of Ulaanbaatar
9	J. Enebish	Chemistry teacher, School No. 113, UB
10	Ts. Lkhamsuren	Chemistry teacher, “New Era (Шинэ эрэн)” School, UB
“Human & Environment” Professional Team		
1	E. Munguntulga	Biology laboratory teacher, School of Natural Science, Mongolia State University of Education
2	P. Altantsetseg	Teacher, School of Education and Psychology, Mongolian State University of Education
3	G. Nergui	Teacher of Natural Science Teaching Method, Teacher School, Mongolia State University of Education
4	D. Enkhtuya	Training manager, “Setgemj” Complex School, UB
5	Ts. Pagmasuren	Teacher, Center of Natural Science Teaching Method, Mongolia State University of Education
6	O. Narangerel	Teacher, “Setgemj” Complex School, UB
7	Ts. Delgersaikhan	Teacher, Teacher School, Mongolia State University of Education
8	Ch. Badamsuren	Teacher, “Setgemj” Complex School, UB
9	L. Purevdolgor	Teacher, School No.12, UB
10	Sh. Daurenbek	Teacher, Teacher School, Mongolia State University of Education
“Human and Nature” Professional Team		
1	Sh. Sainbileg	Teacher, Chemistry, School of Chemistry, Chemistry and Engineering, Mongolia National University

2	D. Tsogzolmaa	Researcher of Primary Education, Institute of Education
3	O. Nyamsuren	Chemistry teacher, “Sant” School, UB
4	A. Byambasuren	Teacher, “Setgemj” Complex School, UB
5	E. Davaakhuu	Teacher, School No. 97, UB
6	Ts. Batsatsaral	Teacher, “Oyunii Ireedui” Complex School, Darkhan-uul
7	M. Baasankhuu	Teacher, Teaching Method Research Center (МДЦСТ), Mongolia National University
8	G. Yumchmaa	Geography teacher, School of Geography and Geology, Mongolia National University
9	D. Odgerel	Methodologist, Teaching Method Research Center (МДЦСТ), Mongolia National University
10	N. Oyuntsetseg	Teacher of Organic Chemistry Laboratory, School of Chemistry, Chemistry and Engineering, Mongolia National University
“Primary Mathematics” Professional Team		
1	O. Chuluuntsetseg	Teacher of Mathematics and IT teaching Method Laboratory, Teacher School, Mongolia State University of Education
2	L. Urtnasan	Specialist, Department of Education of Ulaanbaatar
3	D. Enkhtsetseg	Principal, Teacher School, Mongolia National University
4	B. Khadbaatar	Teacher of Mathematics and IT teaching Method Laboratory, Mongolia State University of Education
5	B. Gantsetseg	Training manager, School No.117, UB
6	B. Lkhamnorjmoo	Training manager, “Ekhlel” School, UB
7	B. Erdenechimeg	Specialist, Ministry of Education and Science, Mongolia
8	B. Gerelgua	Teacher, School No.4, Selenge
“Secondary Mathematics” Professional Team		
1	T. Ganbaatar	Teacher of Mathematics Education Laboratory, School of Mathematics and Statistics, Mongolia State University of Education
2	E. Choisuren	Teacher of Mathematics Education Laboratory, School of Mathematics and Statistics, Mongolia State University of Education
3	Ts. Dalaijamts	Head of Mathematic Education Laboratory, School of Mathematics and Computer, Mongolia National University
4	U. Doyod	Teacher of Mathematic Education Laboratory, School of Mathematics and Computer, Mongolia National University
5	J. Chogmaa	Training manager, “Ireedui” Complex School (High school No.1), UB
6	B. Khishigbayar	Training manager, School No.1 (Secondary School), UB
7	N. Gendensuren	Specialist, Department of Education of Ulaanbaatar
8	N. Munkh-Erdene	Engineering teacher, School of Mathematics and Computer, Mongolia National University
9.	B. Enkhtsetseg	Teacher, “Ireedui” Complex School
“IT” Professional Team		
1	L. Munkhtuya	Head of Program Teaching Method Laboratory, Mongolia State University of Education
2	L. Choijoovanchig	Principal, School of Computer, Information and Technology, Mongolia State University of Education
3	D. Tsedevsuren	Head of Undergraduate Program, Mongolia State University of Education
4	B. Erdenechimeg	IT teacher, “Setgemj” Complex School
5	Kh. Otgonchimeg	Assistant staff, School of Computer, Information and Technology, Mongolia State University of Education
6	B. Zolzaya	Teacher, School of Computer, Information and Technology, Mongolia State University of Education
7	L. Эрдэнэсайхан	Teacher, School of Computer, Information and Technology, Mongolia

		State University of Education
8	Б. Бадамсүрэн	Teacher, School of Computer, Information and Technology, Mongolia State University of Education
9	Ц. Алтанцоож	IT teacher, School No.1, UB
10	Ц. Навчаа	Teacher, School of Mathematics and Compute, Mongolia National University
“Integrated Studies” Professional Team		
1	Ts. Narantsetseg	Head of Primary Education Teaching Method Research Center, Teacher School, Mongolia State University of Education
2	Ch. Altantuya	Training manager, Ulaanbaatar School (Secondary)
3	B. Bulgan	Teacher of Mongolian Language Laboratory, Teacher School, Mongolia State University of Education
4	D. Enkhtuya	Biology teacher, “Setgemj” Complex School
5	L. Namuuntuya	Specialist, Department of Education, Bulgan
6	B. Narantuya	Teacher, “Gurvan-Erdene” College, UB
7	D. Narantuya	Geography teacher, School No.4, Selenge
8	G. Norjmoo	Primary school teacher, School No.45, UB
9	Ts. Oyunsanaa	English teacher, School No. 45, UB
10	N. Reiko	Teacher, School No. 54, UB
“Admin/Management” Group		
1	Sh. Sainbileg	Teacher, School of Chemistry, Chemistry and Engineering, Mongolia National University
2	Sh. Oyuntsetseg	Researcher, Institute of Education
3	U. Tsendsuren	Senior specialist, Department of Education of Ulaanbaatar
4	Ts. Namjildorj	Principal, School No.45, UB
5	D. Enkhtuya	Training manager, “Setgemj” Complex School, UB
6	N. Oyungerel	Training manager, “New Start (Шинэ эхлэл)” School, UB
7	N. Munkh-Erdene	Engineering teacher, School of Mathematics and Computer, Mongolia National University
8	B. Tsogbadrakh	Specialist, Department of Education of Ulaanbaatar
9	L. Otgonsuren	Specialist, Ministry of Education and Science, Mongolia
10	Ts. Pagmasuren	Teacher, Center of Natural Science Teaching Method, Mongolia State University of Education
11	G. Narangerel	Training manger, School No.20, UB
12	G. Bayarmaa	Researcher, Institute of Education
13	B. Oyuntsetseg	Head of Psychology Laboratory, Teacher School, Mongolia State University of Education
14	B. Bulgan	Teacher, Teacher School, Mongolia State University of Education
“Mongolian Language” Professional Team		
1	Sh. Oyuntsetseg	Researcher, Institute of Education
2	U. Tsendsuren	Senior specialist, Department of Education of Ulaanbaatar
3	D. Ganbold	Teacher, Teacher School, Mongolia State University of Education
4	D. Erdenesan	Teacher of Mongolia Study, Mongolia State University of Education
5	G. Nandinbileg	Teacher, School of Mongolian Language and Culture, Mongolia National University
6	B. Tsasanchimeg	Mongolian language teacher, School No.33, UB
7	Ts. Odgerel	Mongolian language teacher “Ireedui” Complex School, UB
8	Ts. Solongo	Teacher, School No.45, UB
“Social Science” Professional Team		
1	U. Tuya (Leader)	Researcher, Institute of Education
2	Ts. Baasandorj	Principal, School of History and Social Science, Mongolia State

		University of Education
3	Kh. Bayarmaa	Teacher, School of History and Social Science, Mongolia State University of Education
4	G. Bulganchimeg	Teacher, School No.12, UB
5	Z. Baasanjav	Teacher, Science School, Mongolia National University
6	D. Dariimaa	Teacher, "Ireedui" Complex School, UB
7	D. Dolgorsuren	Training manager, School No.6, UB
8	Ch. Narantsetseg	Training manager, School No.53, UB
9	G. Tuvshinjargal	Teacher, School No.24, UB
10	G. Shurentsetseg	Specialist, Department of Education of Ulaanbaatar

Attachment 2

List of Lesson Study Experts, Advisors, and Trainers
certified by the Project and ITPD

Attachment 3

List of Regional Lesson Study Trainers
certified by the Project and ITPD

List of Regional Lesson Study Trainer certified by the Project and ITPD

№	Нэр	Ажлын газар			Төслийн судлагдахуун
		Байгууллага	Албан тушаал		
СХД / Songino Khaikhan District					
1	Ч. Энхцэцэг	Ch. Enkhtsetseg	Ирээдүй бага	бага ангийн багш	Хүн байгаль
2	Т. Жаабаатар	T. Jaabaatar	Ирээдүй	сургалтын менежер	Мэдээлэлзүй
3	Ч. Лхагважав	Ch. Lkhagvajav	Ирээдүй 86-р сургууль	сургалтын менежер	Удирдлага
4	А. Туяасайхан	A. Tuyasaikhan	67-р сургууль	сургалтын менежер	Хүн байгаль
5	Д. Дашдэжид	D. Dashdejid	67-р сургууль	бага ангийн багш	Математик бага
6	О. Цэндсүрэн	O. Tsendsuren	67-р сургууль	сургалтын менежер	Удирдлага
7	Д. Наранцацралт	D. Narantsatsralt	12-р сургууль	захирал	Төсөлт ажил
8	Б. Өлзийдэмбэрэл	B. Ulziidemberel	12-р сургууль	бага ангийн багш	Математик бага
9	Б. Сонинцэцэг	B. Sonintsetseg	12-р сургууль	бага ангийн багш	Математик бага
10	Т. Туяажаргал	T. Tuyajargal	12-р сургууль	бага ангийн багш	Хүн байгаль
Булган аймаг / Bulgan Aimag					
1	Д. Пунсал	D. Punsal	1-р сургууль	бага ангийн багш	Хүн орчин
2	Х. Баярчимэг	Kh. Bayarchimeg	1-р сургууль	химийн багш	Хими
3	Д. Бурмаа	D. Burmaa	Боловсролын газар	мэргэжилтэн	Удирдлага
4	М. Одонтунгалаг	M. Odontungalag	Боловсролын газар	мэргэжилтэн	Математик дунд
5	Ц. Уранцэцэг	Ts. Urantsetseg	Боловсролын газар	мэргэжилтэн	Математик бага
6	Э. Түвшинмөнх	E. Tuvshinmunkh	Боловсролын газар	мэргэжилтэн	Мэдээлэлзүй
7	Ж. Орхонтуул	J. Orkontuul	Боловсролын газар	мэргэжилтэн	Удирдлага
8	З. Батзориг	Z. Batzorig	Боловсролын газар	мэргэжилтэн	Удирдлага
9	Б. Гэрэлчимэг	B. Gerelchimeg	1-р сургууль	мэдээлэл зүйн багш	Мэдээлэлзүй
Завхан аймаг / Zavkhan Aimag					
1	Ц. Балжинням	T. Baljinyam	Боловсролын газар	физикийн боловсролын мэргэжилтэн	Физик
2	Ц. Чимэдрэгзэн	Ts. Chimedregzen	Улиастай Чандмань-Эрдэнэ цогцолбор сургууль	химийн багш	Хими
3	Б. Лхамрагчаа	B. Lkhamragchaa	Боловсролын газар	бага боловсролын мэргэжилтэн	Хүн орчин
4	Ч. Эрдэнэцэцэг	Ch. Erdenetsetseg	Улиастай-3 бүрэн дунд сургууль	бага ангийн сургалтын менежер	Хүн байгаль
5	Г. Молом	G. Molom	Улиастай Дэвшил сургууль	бага ангийн сургалтын менежер	Математик бага
6	Д. Оюундулам	D. Oyundulam	Боловсролын газар	математик мэдээлэл зүйн мэргэжилтэн	Математик дунд
7	Л. Ганбаатар	L. Ganbaatar	Улиастай- Жавхлант цогцолбор сургууль	мэдээлэл зүйн багш	Мэдээлэлзүй
8	Г. Цэрэнбалбар	G. Tserenbalbar	Боловсролын газар	монгол хэлний мэргэжилтэн	Төсөлт ажил
9	А. Дэмбэрэлниямбуу	A. Demberelnyambu	Улиастай Чандмань-Эрдэнэ цогцолбор сургууль	дунд ангийн сургалтын менежер	Удирдлага
10	Я. Нарангэрэл	Ya. Narangerel	Боловсролын газар	хими биологи, эрүүл мэндийн боловсролын мэргэжилтэн	Удирдлага
11	Н. Мөнхтуяа	N. Munkhtuya	Улиастай Чандмань-Эрдэнэ цогцолбор сургууль	бага ангийн сургалтын менежер	Удирдлага
Сэлэнгэ аймаг					
1	Т. Сундуй	T. Sundui	Боловсролын газар	физик, газарзүй, зайны сургалт хариуцсан мэргэжилтэн	Физик
2	П. Мягмарсүрэн	P. Myagmarsuren	Боловсролын газар	бага боловсрол хариуцсан мэргэжилтэн	Хүн орчин
3	Л. Наранцэцэг	L. Narantsetseg	Боловсролын газар	хими, биологи, эрүүл мэндийн боловсрол хариуцсан мэргэжилтэн	Хүн байгаль
4	Д. Нарантуяа	D. Narantuuya	Боловсролын газар	математик мэдээлэл зүйн боловсрол хариуцсан мэргэжилтэн	Математик дунд
5	Л. Сувдаа	L. Suvdaa	Боловсролын газар	сургалтын албаны дарга	Удирдлага
6	Б. Гэрэлгуа	B. Gerelgua	Сүхбаатар 4-р сургууль	бага ангийн багш	Математик бага
7	Г. Баярмаа	G. Bayarmaa	Сүхбаатар 1-р сургууль	бага ангийн сургалтын менежер	Удирдлага
8	Б. Түвшинсайхан	B. Tuvshinsaikhan	Сүхбаатар 1-р сургууль	химийн багш	Хими
9	Б. Оюунгэрэл	B. Oyungerel	Сүхбаатар 1-р сургууль	математикийн багш	Математик дунд
Дорнод аймаг					
1	Ц.Алдармаа	Ts. Aldarmaa	5-р сургууль	математикийн багш	Математик дунд
2	Б.Хандам	B. Khandam	5-р сургууль	хими багш	Хими
3	Ц.Хоролжав	Ts. Khoroljav	Хан-Уул сургууль	физикийн багш	Физик
4	Ц.Сарангэрэл	Ts. Sarangerel	5-р сургууль	бага ангийн багш	Математик бага
5	Ч.Цогзолмаа	Ch. Tsogzolmaa	Хан-Уул сургууль	бага ангийн багш	Хүн байгаль
6	А.Мядагмаа	A. Myadagmaa	5-р сургууль	бага ангийн багш	Хүн орчин
7	Б.Уранжаргал	B. Uranjargal	5-р сургууль	биологи багш	Төсөлт ажил
8	Х.Баясгалан	Kh. Bayasgalan	Боловсролын газар	мэргэжилтэн	Удирдлага
9	Г. Жаргалтуяа	G. Jargaltuya	Хан-Уул сургууль	мэдээлэл зүй багш	Мэдээлэл зүй
10	Ж. Бумтуяа	J. Bumtuya	Боловсролын газар	мэргэжилтэн	Хүн байгаль

Шалгуур

- 1 11 сарын Үндэсний хэмжээний бүсчилсэн сургалтад дор хаяж 2-оос доошгүй удаа оролцож, сургагч багшаар ажилласан байх
- 2 Орон нутаг, бүсийн сургалтад 2-оос доошгүй удаа сургагч багшаар ажилласан байх
- 3 Судалгаат хичээлийг 2-оос доошгүй удаа боловсруулж, заах, турших, сайжруулахад оролцсон байх

Criteria

- 1 Worked as the trainer of national level training in November more than twice.
- 2 Worked as the trainer of the local training more than twice.
- 3 Conducted Lesson Study more than twice.

Attachment 4

Lesson Quality

Indicator	Physics		Chemistry		Human & Environment		Human & Nature		Primary Math		Secondary Math		IT		Ingrated Studies	
	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12	School No.67	School No.12
Whether the teaching material is appropriate to deliver the aim of lesson and create the learning space for students.	4	3	2	3	2	3			3	3	3	3	5	4	4	4
	3	4	3	3	3	3			2	3	3	3	4	4	4	4
Whether the teaching material is developed based on the recognition of children's development.	3	4	3	3	3	3			3	3	3	3	3	3	3	3
	4	4	3	3	3	3			3	3	3	3	3	3	3	3
Whether the teachers select the appropriate "teaching material".	4	4	3	3	3	3			3	3	3	3	3	3	3	3
	4	5	2	3	2	3			3	3	3	3	3	3	3	3
Whether the teaching material is prepared based on the lesson contents which students have already learnt and their experience.	3	4	3	3	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the lesson has steps such as introduction, content, and conclusion.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the time allocation is appropriate.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the teacher's questions enhance student's interest.	3	3	2	3	2	3			3	3	3	3	3	3	3	3
	3	3	2	3	2	3			3	3	3	3	3	3	3	3
Whether the teacher's questions encourage student's diverse ideas.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the teacher shares one student's idea to others and connect it to the next content.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the teacher's questions are based on the lesson contents which students have already learnt and their experience.	3	3	3	3	3	3			3	3	3	3	3	3	3	3
	3	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the teacher understands the learning of students in the class.	3	3	3	3	3	3			3	3	3	3	3	3	3	3
	3	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the teacher is able to correspond to student's reaction.	2	3	3	3	3	3			3	3	3	3	3	3	3	3
	2	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the blackboard management is appropriate.	2	2	3	2	3	3			3	3	3	3	3	3	3	3
	2	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the instruction on taking notes is appropriate.	2	2	3	2	3	3			3	3	3	3	3	3	3	3
	2	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the students are able to express their ideas actively.	5	3	3	3	3	3			3	3	3	3	3	3	3	3
	4	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the students are able to express well-considered remarks.	4	3	3	3	3	3			3	3	3	3	3	3	3	3
	4	5	3	3	3	3			3	3	3	3	3	3	3	3
Whether the students are able to participate in the activities (observation, experiment, etc.)	4	5	3	3	3	3			3	3	3	3	3	3	3	3
	3	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the students are able to conclude the learning.	3	3	3	3	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the students are able to have further inquiry.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the students are able to solve the problems well.	3	3	3	3	3	3			3	3	3	3	3	3	3	3
	3	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the students are able to follow the teacher's instruction.	4	5	3	3	3	3			3	3	3	3	3	3	3	3
	3	3	3	3	3	3			3	3	3	3	3	3	3	3
Whether the students are able to conclude the learning.	3	3	3	3	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3
Whether the students are able to have further inquiry.	3	2	3	2	3	3			3	3	3	3	3	3	3	3
	3	2	3	2	3	3			3	3	3	3	3	3	3	3

Teacher

Student

Indicator	Physics		Chemistry		Human & Environment		Human & Nature		Primary Math		Secondary Math		IT		Integrated Studies		
	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	School #1	Hitting/Indur	Comment
Whether "the teaching material" is appropriate for the aim for lesson and the learning space for students.	2.5	4	4	3	4	4	4	4	3	3	3	4	4	4	5	5	Average: 4.87 - The students chose the topics based on their interest. Therefore, "the teaching material" was suitable for the students. - Lessons topics were related to the real-life (for example, how to make milk products such as cheese). - Their parents and public were involved in collecting data.
	4	4	3	3	4	4	4	4	3	3	3	4	4	4	5	5	Average: 3.50 - "The teaching material" was not appropriate for the students who had already learned about this theme. - In other lesson, the lesson material was effective, but the teacher couldn't utilize it well. - Some teachers failed to prepare the materials, although they had good ideas.
Whether "the teaching material" is developed based on the recognition of children development.	4	4	3	4	4	4	4	4	4	3	3	3	3	3	3	3	Average: 2.79 - The teachers' skill on developing the appropriate teaching material to create the learning space for students, and consider the child development must be improved. - However, the teachers failed to prepare the materials, although they had good ideas.
Whether the teachers select the appropriate "the teaching material".	3.5	4	3	4	3	4	4	4	4	3	3	3	3	3	3	3	Average: 3.80 - "The teaching material" was appropriate and developed based on the recognition of child development. - The objective of lesson was understandable for the students, and created the learning space for them. - However, the teachers made mistakes in delivering scientific knowledge due to the lack of theoretical knowledge.
Whether "the teaching material" raises the children's motivation for learning.	4	4	3	4	2	4	4	4	2	2	2	3	3	3	3	3	Average: 3.33 - The lesson was conducted flexible to correspond to the students' reaction. - The connection among the topics was not clear for other students. - However, the structure of lesson must be improved in other schools.
Whether "the teaching material" is suitable for the lesson contents which students have already learn and their experience.	3	4	2	4	2	4	2	4	2	3	3	3	3	3	3	3	Average: 3.50 - The lesson plan had steps such as introduction, content and conclusion. - However, the time was not enough for the students to conclude the lesson, therefore, the teacher concluded the lesson by him/herself.
Whether the lesson has steps such as introduction, content, and conclusion.	4	4.5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	Average: 3.61 - The teachers provided questions to enhance the students' interest and thoughts. - However, the teachers' skills on encouraging the students' diverse ideas and increasing their confidence in their own skills were not improved. - The teachers' questions should be developed by considering the children preconception and experiences.
Whether the composition (structure) of lesson is appropriate.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	Average: 3.67 - The teachers created open and welcome environment for the students to communicate. - However, their understanding and communication skills were not improved. - Blackboard management must be improved (having more writing on blackboard, less visual aids on it).
Whether the teacher's questions enhance student's interest.	2.5	4.5	2	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 3.00 - The teachers responded to active students' reaction, but not all students. - Blackboard management needed to be improved (consideration of students' notebook).
Whether the teacher's questions encourage students to think (predict, find the result, etc.).	3	4	2	4	2	4	2	4	2	2	2	2	2	2	2	2	Average: 2.77 - Questions were developed based on what the students had already learnt and to enhance their interest. - However, the teachers questions were not clear enough to link the students' ideas and to develop their confidence in their own skills. - The students expressed their interest to answer to the questions however, the equal opportunity was not given to all students.
Whether the teacher provide the equal opportunities to students to answer.	2	4	3	3	2	4	3	4	3	2	2	2	2	2	2	2	Average: 2.44 - Questions were not understandable and the teacher repeated a few questions several times. - Some questions made the students confused. - The students were not clear on the teacher's lesson plan without considering students' reaction.
Whether the teacher's questions encourage student's diverse ideas.	3.5	4	3	4	2	4	2	4	2	2	2	2	2	2	2	2	Average: 3.10 - Teacher didn't provide questions to students to think and have diverse ideas. I teachers' skill on corresponding to students' reaction was not improved. - They need to follow the lesson plan without considering students' reaction.
Whether the teacher shares one student's idea to others and connect it to the next contents.	2.5	4.5	2	3	2	4	2	4	2	2	2	2	2	2	2	2	Average: 2.44 - The teachers encouraged the students and tried to create the child friendly environment. - However, their understanding and communication skills were not improved. - Blackboard management must be improved (having more writing on blackboard, less visual aids on it).
Whether the teacher's questions are based on the lesson contents which students have already learnt and their experience.	2	4.5	4	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 3.67 - The teachers created open and welcome environment for the students to communicate. - However, their understanding and communication skills were not improved. - Blackboard management must be improved (having more writing on blackboard, less visual aids on it).
Whether the teacher understands the learning of students in the class.	2	4.5	2	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 3.00 - The teachers responded to active students' reaction, but not all students. - Blackboard management needed to be improved (consideration of students' notebook).
Whether the teacher is able to correspond to student's reaction.	2	4.5	3	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 2.93 - The students expressed their ideas and actively participated, generally, their ability to express well-considered remarks, to conclude their learning and to have further inquiry must be improved.
Whether the blackboard management is appropriate.	2	4.5	2	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 2.93 - The students expressed their ideas and actively participated, generally, their ability to express well-considered remarks, to conclude their learning and to have further inquiry must be improved.
Whether the instruction on taking notes is appropriate.	2	4	2	4	3	4	3	4	3	3	3	3	3	3	3	3	Average: 3.33 - The students' skill on expressing their ideas was in different level, generally, their ability to express well-considered remarks, to conclude their learning and to have further inquiry must be improved.
Whether the students are able to express their ideas actively.	2	4.5	3	3	3	3	4	4	4	4	4	4	4	4	4	4	Average: 3.33 - The students' skill on expressing their ideas was in different level, generally, their ability to express well-considered remarks, to conclude their learning and to have further inquiry must be improved.
Whether the students are able to participate in the activities (observation, experiment, etc.)	4	4.5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	Average: 3.33 - The students were active and expressed their ideas and participated actively in the lesson. - However, students' abilities were not shown during the teachers' instruction.
Whether the students are able to conclude the learning	4	5	4	5	4	5	4	5	4	5	4	5	4	5	4	5	Average: 3.40 - The students were active and expressed their ideas and participated actively in the lesson. - However, students' abilities were not shown during the teachers' instruction.
Whether the students are able to have further inquiry	2	4	2	4	2	4	2	4	2	2	2	2	2	2	2	2	Average: 2.47 - It was not easy to observe students' ability to conclude their learning. It is believed that the teachers should have further inquiry must be improved.
Whether the students are able to think deeply	2	4	2	4	2	4	2	4	2	2	2	2	2	2	2	2	Average: 2.47 - It was not easy to observe students' ability to conclude their learning. It is believed that the teachers should have further inquiry must be improved.

Indicator	Physics			Chemistry			Human & Environment			Human & Nature			Primary Math			Secondary Math			IT			Integrated Studies			
	Shabets	Zavkhaan	Teachers	Shabets	Teachers	Comments	Shabets	Teachers	Comments	Shabets	Teachers	Comments	Shabets	Teachers	Comments	Shabets	Teachers	Comments	Shabets	Teachers	Comments	Shabets	Teachers	Comments	
Whether the teacher understands the learning of students in the class.	3	4	Average: 3.13 The teachers conducted experiments and the students were motivated to be involved in the experiments. However, their skill on selecting and preparing for the appropriate materials based on the recognition of children development must be improved.	4	3	Average: 3.33 The objective and activities were stated clearly in the lesson plans (For example, the lesson purpose is to let the students to think, predict, do, observe, and summarize). However, the teacher was not flexible enough to reflect the students' reaction into the lesson steps.	3	2	Average: 3.33 The experiments were interesting and understandable for the students. It is because the materials which the students often use were utilized. However, the conclusion part of experiments must be improved. It is needed to consider the experiments' purpose and output.	4	3	Average: 3.75 The teachers' skill on developing the teaching material has been improved. Selection on the material was also appropriate. The material attracted the students and motivated them to think, do and conclude. However, the recognition of children development must be improved.	3	3	Average: 3.40 The students were motivated by the interesting problems related with real life. However, the teachers must improve their skills on recognizing the children development.	3	4	Average: 3.20 "The teaching material" was interesting because the practical issues in real life was raised. However, the teachers' explanation of contents was not appropriate (not scientific).	4	3	4	3	4	Average: 3.80 The students chose the topic by themselves based on what they would like to learn and made a plan to conduct research. The students collected and presented to other students. The students were involved actively in preparing for the teaching materials with assistance of the teacher. It was student-oriented lesson.	
	Whether the teacher's questions encourage students to think (predict, find the result, etc.)	3	3	Average: 3.33 These steps were planned in the lesson plan. However, the conclusion was not done because the time management was not good and too much information and too many activities were given in a 40-minute lesson.	4	3	Average: 3.50 The lesson plan had steps such as introduction, content and conclusion. However, conclusion step must be improved. The time allocation for students to think must be increased.	4	2	Average: 3.17 The lesson plan which consists of 3 main steps was clear. However, the instruction of experiment should be given understandable for the students. The time allocation was good in general, however the students didn't have enough time to think.	4	3	Average: 3.67 The time allocation must be improved. The introduction and content step took for a long time, and there was no time to conclude the lesson.	3	3	Average: 3.17 The time allocation for each lesson steps was not appropriate due to a lack of lesson preparation. The learning of students was not considered.	3	3	4	3	4	3	4	Average: 3.50 The lessons had three steps. The time was given to students for their presentation. However, the time allocation must be improved because each student had different level of presentation skill.	
Whether the teacher's questions encourage student's diverse ideas.	3	3	Average: 2.94 The questions were not much related to real life. The teacher tried to let the students to think and present their output of group work. However, the teachers must improve their skills on making appropriate, consistent, and concrete questions to encourage students' learning.	3	3	Average: 3.33 3.18. Questions were understandable but encouraging ideas must be improved. There is a connection between teachers' questions and students' feedback. Active students were provided the opportunity to answer the question because of time constraints.	3	3	Average: 3.28 The teachers provided the questions to enhance students' learning. However, the teachers' skills on encouraging the students' diverse ideas and connecting the ideas to the main topic must be improved. The teachers' questions should be developed by considering the children preconception and experiences on the issue.	3	3	Average: 3.61 Teachers were learning how to enhance students' interest in their own thinking. However, their skill on developing questions to encourage students' diverse ideas are needed to be improved.	4	4	Average: 3.39 The instruction and questions must be clear, consistent in order to encourage the students to think, to produce diverse ideas, and to be creative and productive. The teachers' skill on giving feedbacks to the students must be improved.	4	3	4	3	4	3	4	Average: 3.39 The teachers skill on providing clear and appropriate instruction and questions has been improved. The teachers encouraged the students to make a plan, to collect data and to report. However, the teachers' skill on encouraging the students to share the ideas must be improved.		
Whether the teacher shares one student's idea to others and connect it to the next contents.	3	4	Average: 3.08 The teacher's skill on understanding the learning of students was improved. However, their skill on corresponding to students' reaction must be improved. Blackboard management and instruction on taking notes must be improved.	3	3	Average: 3.33 The teachers were not able to assume the students' answer, reaction, and feedback. The analysis of the students' learning must be improved. Blackboard management was getting better but not shown in the lesson plan. Note taking must be considered.	4	3	Average: 3.75 The teachers considered the students' reaction and created child-friendly environment. Blackboard management was appropriate, since it showed the process of lesson. The students were able to write the main contents of the lesson on their notebook.	3	3	Average: 3.41 The teachers' understanding on the learning of students was at satisfied level. However, their skills on corresponding to the students' reaction must be improved. Blackboard management was not good. 20% of students were not able to write on their notebook.	3	3	Average: 3.08 Basically, the teachers were supportive and friendly to the students. However the opportunities were not given to all students equally. The teachers' skill on blackboard planning must be improved.	4	3	4	3	4	3	4	Average: 3.83 The teachers' understanding on the learning of students and corresponding to students' reaction has been improved through Integrated Studies lessons. Blackboard management was appropriate. However, the teachers should use a blackboard to write notes instead of hanging visual aids.		
Whether the students are able to express their ideas actively.	3	4	Average: 3.26 The students were able to express their ideas and actively participate in the experiment. However, the students were not able to have further inquiry.	4	4	Average: 3.2 The students expressed their ideas and participated the activities actively. However, their ability to express the learning and to have further inquiry must be improved.	4	3	Average: 2.8 Every student equally participated in the lesson. They expressed their ideas actively. However, the teacher didn't provide any opportunity to the students to have further inquiry.	4	3	Average: 3.00 The students were able to express their ideas actively when they had a chance. They participated in the class actively if instruction was understandable.	4	3	Average: 3.33 The students were active and their skills on working as a team has been improved. However, their skill on concluding and having further inquiry must be improved.	4	3	4	3	4	3	4	Average: 3.60 The students were able to express their ideas and participated in data collection and analysis activity. They still need to conclude their inquiry must be improved.		
Whether the students are able to participate in the activities (observation, experiment, etc.)	3	4	Average: 3.13 The students were able to participate in the activities (observation, experiment, etc.) and to have further inquiry.	4	4	Average: 3.27 The students were active in participating in the activities. However, only few active students (4-5 per class) expressed their ideas and to have further inquiry.	3	2	Average: 2.8 Every student equally participated in the lesson. They expressed their ideas actively. However, the teacher didn't provide any opportunity to the students to have further inquiry.	4	3	Average: 3.00 The students were able to express their ideas actively when they had a chance. They participated in the class actively if instruction was understandable.	4	3	Average: 3.33 The students were active and their skills on working as a team has been improved. However, their skill on concluding and having further inquiry must be improved.	4	3	4	3	4	3	4	Average: 3.60 The students were able to express their ideas and participated in data collection and analysis activity. They still need to conclude their inquiry must be improved.		
Whether the students are able to conclude the learning	3	3	Average: 3.08 The teacher's skill on understanding the learning of students was improved. However, their skill on corresponding to students' reaction must be improved. Blackboard management and instruction on taking notes must be improved.	3	3	Average: 3.33 The teachers were not able to assume the students' answer, reaction, and feedback. The analysis of the students' learning must be improved. Blackboard management was getting better but not shown in the lesson plan. Note taking must be considered.	4	3	Average: 3.75 The teachers considered the students' reaction and created child-friendly environment. Blackboard management was appropriate, since it showed the process of lesson. The students were able to write the main contents of the lesson on their notebook.	3	3	Average: 3.41 The teachers' understanding on the learning of students was at satisfied level. However, their skills on corresponding to the students' reaction must be improved. Blackboard management was not good. 20% of students were not able to write on their notebook.	3	3	Average: 3.08 Basically, the teachers were supportive and friendly to the students. However the opportunities were not given to all students equally. The teachers' skill on blackboard planning must be improved.	4	3	4	3	4	3	4	3	4	Average: 3.83 The teachers' understanding on the learning of students and corresponding to students' reaction has been improved through Integrated Studies lessons. Blackboard management was appropriate. However, the teachers should use a blackboard to write notes instead of hanging visual aids.
Whether the students are able to have further inquiry	2	3	Average: 3.26 The students were able to express their ideas and actively participate in the experiment. However, the students were not able to have further inquiry.	4	4	Average: 3.27 The students were active in participating in the activities. However, only few active students (4-5 per class) expressed their ideas and to have further inquiry.	4	3	Average: 2.8 Every student equally participated in the lesson. They expressed their ideas actively. However, the teacher didn't provide any opportunity to the students to have further inquiry.	4	3	Average: 3.00 The students were able to express their ideas actively when they had a chance. They participated in the class actively if instruction was understandable.	4	3	Average: 3.33 The students were active and their skills on working as a team has been improved. However, their skill on concluding and having further inquiry must be improved.	4	3	4	3	4	3	4	Average: 3.60 The students were able to express their ideas and participated in data collection and analysis activity. They still need to conclude their inquiry must be improved.		

Teacher

Student

Attachment 5

Lesson Study Implementation Quality

LESSON STUDY IMPLEMENTATION: SONGINO KHAIRKHAN

Indicator		SONGINO KHAIRKHAN 2011			SONGINO KHAIRKHAN 2012			SONGINO KHAIRKHAN 2011/2012		
		Comment			Comment			Changes between 2011 and 2012		
Lesson preparation /Kyozaï kenkyu/	Study on students' preconception (students' preconception, knowledge on the topics, and what they have learnt from real life)									
	Study on students' mistake /isumazaki/ (whether the teacher assumes students' mistakes in learning process, and whether the teacher is flexible in accordance with students' reactions and mistakes)	2	3							
	Study on content (How the teacher conducts a study on content, whether the lesson is planned based on the content study, and whether the teacher uses the teaching materials based on the previous study)	3	2							
Lesson implementation and observation	Whether the lesson reaches its aims and objectives	3	3							
	Whether the observers' understand the purpose, organization of observation, and their role	4	4							
	Whether observers are able to observe students' learning (changes in students' learning process)	3	3							
Lesson discussion	Whether the purpose of discussion is determined correctly	3	3							
	Whether the good points is discussed with considering/based on the lesson plan implementation and observation of students' learning	3	3							
	Whether the areas to be improved are discussed with considering/based on the lesson plan implementation and observation of students' learning	3	2	3						

LESSON STUDY IMPLEMENTATION: BULGAN

		BULGAN 2011				BULGAN 2012				BULGAN 2011/2012						
		Comment				Comment				Changes between 2011/2012						
		School #1	Hishig/Undur	Cirvanbiling	Hita/Undur	Selenge	School #1	Hishig/Undur	Cirvanbiling	Hita/Undur	Selenge	School #1	Hishig/Undur	Cirvanbiling	Hita/Undur	Selenge
Lesson preparation/Kyozaikenkyu	Study on students' preconception (students' preconception, knowledge on the topics, and what they have learnt from real life)		3	2	2											
	Study on students' mistake (sumazuki/whether the teacher assumes students' mistakes in learning process, and whether the teacher is flexible in accordance with students' reactions and mistakes)		2	2	2											
	Study on content (How the teacher conducts a study on content, whether the lesson is planned based on the content study, and whether the teacher uses the teaching materials based on the previous study)		4	2	2											
Lesson implementation and observation	Whether the lesson reaches its aims and objectives		3	3	4											
	Whether the observers understand the purpose, organization of observation, and their role		2	3	3											
	Whether observers are able to observe students' learning (Changes in students' learning process)		2	3	2											
Lesson discussion	Whether the purpose of discussion is determined correctly		3	2	2											
	Whether the good points is discussed with considering/based on the lesson plan implementation and observation of students' learning		2	2	2											
	Whether the areas to be improved are discussed with considering/based on the lesson plan implementation and observation of students' learning		2	2	2											
	Whether the discussion reaches its aims		2	2	2											

- The teachers' understanding on "kyozai kenkyu" has been improved and there are some positive changes in the implementation process. However, its sustainability should be considered seriously.

- Positive changes: Teachers understood how "kyozai kenkyu" is important to conduct a good lesson, the difference between "kyozai kenkyu" and how they prepared for lessons, the importance of teaching material development.

- The teachers' ability to select the appropriate teaching material has been improved as a result of conducting the study on teaching methods, materials, and content.

- However, the study on the child development must be improved significantly.

- The school administrator's understanding on the lesson study, their support and supervision to the teachers are very important for the implementation of the lesson study.

- The teachers and training managers understand the necessity to determine the clear and achievable lesson aim and objective.

- The training managers are much involved in the lesson study. They provide advices to the teachers to conduct a good lesson. Therefore, the understanding on lesson quality has been shared among teachers and they started to consider the child-centered teaching methods.

- However, in reality, the teachers are facing the difficulties to improve their lesson quality. It is because the time is needed to change the teachers' attitude, some school administrators were changed, etc.

- The teachers' skill on observing a lesson has been improved. However, the sustainability of this activity should be considered.

- The discussion quality is insufficient level in Bulgan aimag, although there are some positive changes in lesson study implementation such as teachers understanding on the importance of lesson study, the learning of students, and team work and the administrators understanding of their role.

- However, the discussion quality must be improved significantly. The school administrators should consider the lesson study implementation as a whole and school's human capacity.

Average 2.50

- The teachers' attitude towards a lesson preparation (kyozai kenkyu) has been changed positively by trying to choose appropriate teaching methods and materials.

- However, the teaching material should be selected with the purpose to let the students create knowledge by themselves.

- The teachers' skills on the content study must be improved using other sources rather than textbook.

- The teachers started to consider a study on students' preconception and mistakes. However, the child study must be improved at significant level.

- The teachers group prepares study lessons, however, their skill on team work must be improved by getting support from school principal and managers.

Average: 2.78

- The lesson aims and objectives became clear and achievable for some schools. However, in general, it is still needed to be improved based on the outputs of "kyozai kenkyu" and the learning of students.

- The number of unnecessary activities has been decreased.

- The detailed lesson plan must be developed.

- The observers' role was clear, however, they need to learn how to observe the learning of students.

Average: 2.08

- The organization of discussion is getting better.

- In some schools, the participants of discussion are able to summarize what they discuss by utilizing the observation sheet.

- In some schools, the managers facilitated the discussion first, then they gave this role to the group leader and active teachers. In general, the discussion quality shows how the lesson study is implemented in respective school.

LESSON STUDY IMPLEMENTATION: ZAVKHAN

		ZAVKHAN 2011					ZAVKHAN 2012					ZAVKHAN 2011/2012				
		Comment					Comment					Changes between 2011 and 2012				
Lesson preparation /Kyoza kenkyu/	Study on students' preconception (students' preconception, knowledge on the topics, and what they have learnt from real life)	2	3	3	4	3	2	3	3	4	3	- Each school has different level of lesson quality and preparation. - The lesson content is getting more appropriate by considering the learning of students. - The number of teachers lacking the understanding on the students' preconception has been decreased. Some teachers are now able to assume the students' reaction well and they are able to reflect it into the lesson plan. - Assuming the students' mistakes in the lesson plan is also improved. However, the teachers' skills to correspond to the students' reaction must be improved. - The primary teachers' knowledge on science and environment must be improved. - The teachers are able to create the teaching materials by using the second hand materials. However, effectiveness and efficiency must be considered when they develop the materials. - The lesson plan must be improved having concrete and rational activities in order to achieve the aims of lesson.				
	Study on students' mistake /sumazuki/ (whether the teacher assumes students' mistakes in learning process, and whether the teacher is flexible in accordance with students' reactions and mistakes)	2	3	3	3	3	Average: 3.29 - Half of the teachers are still not able to understand the students' preconception. Some teachers would like to learn a specific research method to understand the students' preconception. However, a few teachers tried to reflect the result of their study into their lesson plan. - Most teachers tried to assume the students' mistakes and reflect them into the lesson plan. However, it needs to be improved in the preparation stage as well as implementation stage. - The teachers team conducts the study on contents. A team consists of both primary and secondary teachers in some schools. It contributes to creating the good continuation between primary and secondary.									
	Study on content (How the teacher conducts a study on content, whether the lesson is planned based on the content study, and whether the teacher uses the teaching materials based on the previous study)	4	4	3	4	4	Average: 3.67 - The lesson objectives became more clear than before. - The students' activities were well planned in the lesson plan. However, the time for students to think, do, conclude was not enough in its implementation. - Especially, "the teaching materials" for "Human & Environment" and "Human & Nature" were not effective and contained some unnecessary things.									
Lesson implementation and observation	Whether the lesson reaches its aims and objectives	3	4	4	4	3	Average: 3.88 - The teachers' observation skill is getting better because they focus on the purpose of the lesson and the learning of students. - However, some school teachers still focus on the specific areas without considering the whole picture of the lesson and its purpose. - The discussion was effective in some schools. They are able to conclude how to improve the lesson quality and lesson plan. However, it must be improved in some schools. - The facilitator's skill must be improved to have a good argument how to improve the lesson.									
	Whether the observers' understand the purpose, organization of observation, and their role	3	4	5	4	3	- Generally, there is an improvement in developing a lesson plan considering students' learning, especially students activities to think, predict, do, and conclude. - However, the detailed planning in each step must be improved by considering whether the activities are necessary to achieve the aims of the lesson. - Most teachers observe the lesson to understand the lesson quality rather than to evaluate the lesson. - However, the observation skills on the students' learning must be improved in general.									
	Whether observers are able to observe students' learning (Changes in students' learning process)	4	4	5	4	3	- Each school is in the different level of discussion. The purpose of discussion is clear and effective in some schools, while other schools have no clear purpose. It is strongly related with the lesson study management of each school. - Lesson study is implemented successfully if the administrators and teachers have a common understanding on the lesson study. In such schools, the lesson study is considered as a part of school activities. It shows that the role of school management is very important in the lesson study implementation.									
Lesson discussion	Whether the purpose of discussion is determined correctly	4	4	5	4	3	- The purpose of discussion was not clear. - The teachers were too critical to the teacher. - The comments were not able to contribute to improving the lesson quality. - Some schools had the discussion based on the evaluation score. - The conclusion was not clear. The areas to be improved in the lesson was not discussed well.									
	Whether the good points is discussed with considering based on the lesson plan implementation and observation of students' learning	4	4	5	4	3	- Each school is in the different level of discussion. The purpose of discussion is clear and effective in some schools, while other schools have no clear purpose. It is strongly related with the lesson study management of each school. - Lesson study is implemented successfully if the administrators and teachers have a common understanding on the lesson study. In such schools, the lesson study is considered as a part of school activities. It shows that the role of school management is very important in the lesson study implementation.									
	Whether the areas to be improved are discussed with considering based on the lesson plan implementation and observation of students' learning	5	4	5	4	3	- Each school is in the different level of discussion. The purpose of discussion is clear and effective in some schools, while other schools have no clear purpose. It is strongly related with the lesson study management of each school. - Lesson study is implemented successfully if the administrators and teachers have a common understanding on the lesson study. In such schools, the lesson study is considered as a part of school activities. It shows that the role of school management is very important in the lesson study implementation.									
Whether the discussion reaches its aims	4	4	5	4	3											

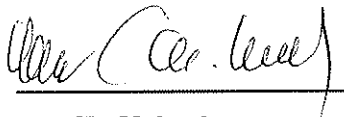
Attachment 6

Minutes of Meetings on Joint Coordinating Committee

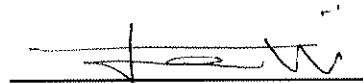
**MINUTES OF MEETING ON
JOINT COORDINATING COMMITTEE
FOR
TECHNICAL COOPERATION PROJECT ON
STRENGTHENING SYSTEMS FOR IMPROVING AND DISSEMINATING
CHILD-CENTERED TEACHING METHODS IN MONGOLIA**

**Agreed upon between
MINISTRY OF EDUCATION, CULTURE AND SCIENCE
and
JICA Project Team**

Ulaanbaatar, 20 June 2011



**Ms. Ch. Kulanda
Vice Minister
Ministry of Education, Culture and Science
Mongolia**



**Mr. Tetsuya Ishii
Project Manager
JICA Project Team**

Based upon the official agreement made between the Ministry of Education, Culture and Science (hereinafter referred to as “MECS”) and Japan International Cooperation Agency (hereinafter referred to as “JICA”) in Ulaanbaatar on 8 December 2009, JICA dispatched the Project Team headed by Mr. Tetsuya Ishii to Mongolia to implement the Technical Cooperation Project on Strengthening Systems for Improving and Disseminating Child-Centered Teaching Methods in Mongolia (hereinafter referred to as “the Project”) in April 2010.

The Joint Coordinating Committee was held on 26 May 2011 chaired by Ms. Ch. Kulanda, Vice Minister of MECS to discuss and agree on the progress of the 1st year Project activities (2010/2011), the training module improvement, the budget of Mongolian side for the project implementation, confirmation the Professional Team members, the indicators of Project Design Matrix, the 2nd year Project activity (2011/2012), and the sustainability of the Project outcomes. The major points discussed and agreed in the meeting were summarized below.

1. Opening Remark by the Vice Minister

Ms. Ch. Kulanda, the Vice Minister (Project Director) welcomed the participants gathering for the Joint Coordinating Committee and showed her understanding on the Project purpose as the dissemination of the child-centered teaching method in Mongolia. She stated that this committee was held based on the Record of Discussion agreed between MECS and JICA on 8 December 2009 and encouraged the participants to discuss issues efficiently.

2. Report on the 1st year Project activity (2010/2011)

The progress of the 1st year Project activity, its outputs and issues were presented by Ms. Sayaka Suzuki, Project Expert on Training Plan/Monitoring and Evaluation.

Mr. Masahiro Kamata, Project Expert on Dissemination of the Teaching Method (Science) shared his findings on “Lesson Study” implementation in the model district/aimags based on the monitoring in February and March 2011. While the Project Team found that the specialists of Department of Education and Culture, and the school administrators and teachers in the district/aimags spent great time and energy to improve teaching method, several issues were still observed; for example, too much contents were packed in one lesson, and ineffective usage of audio-visual equipment.

The Project Experts’ feedbacks on “Lesson Study” implementation in model district/aimags were provided to the participants.

3. Discussion on the training modules improvement

Ms. N. Nergui, Senior Officer of General Education Department of MECS (Project Coordinator) explained the purpose of the training modules development and necessity to revise the 1st draft of training module.

Ms. G. Gantsetseg, Officer of General Education Department of MECS introduced the results of the training module review as follows:

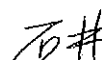
- The criteria for training modules were identified in the Minister's Order No. 575 issued on 15 December 2010.
- The modules were highly evaluated as it included the information on both issues for each subject and crosscutting issues for all subjects. However it is necessary to be revised in order to suit the needs of schools and teachers. Main points to be improved are as follows:
 - The title of chapter and its content are not consistent.
 - The terms used in the modules are not consistent.
 - Lack of consistency among the modules, and the levels of module are different one another.
 - The amount of information is too much for teachers to conduct "Lesson Study".
 - "Lesson Study" should be reflected into the plan of School Based Teaching Method Study Group.
- MECS expects the training modules to give some idea on "Lesson Study" to the teachers of non-targeted subjects (besides Physics, Chemistry, "Human & Environment", "Human & Nature", Primary Mathematics, Secondary Mathematics, IT and Integrated Studies).

The training modules' revision was scheduled as follows:

- By August 2011: Revision of the modules based on the comments
- Around October to November 2011: Review of the modules by MECS experts
- By December 2012: Completion of the training modules

Ms. N. Nerugi commented that not only one lesson (for 45 minutes) but also one unit lesson (4-5 lessons) should be monitored in order to find out children's change.

Mr. Tetsuya Ishii proposed to hold the meeting with the group leaders in June 2011 to discuss more about the training module improvement.



4. Report on the budget of Mongolia side

Ms. N. Nergui explained the items covered by Mongolia side based on the Record of Discussion agreed between MECS and JICA in December 2009 as follows:

- Writing fee of the training modules
- Trainer's fee: The trainer's fee for this year will be increased than last year's, since the fee in 2010 was too low compared with the fee of ADB project.
- Allowance and transportation fee for the "Lesson Study" and training monitoring organized by MECS
- Insurance for the personnel for visiting the countryside for the "Lesson Study" and training monitoring.

Regarding the budget, Ms. H. Gantsetseg stated that it was not possible to discuss about the budget of 2013 at present. Printing cost issue will be discussed later.

After the budget of 2011 is approved, the Minister's Order will be issued.

5. Introduction of Professional Team Member

Ms. Nergui introduced the members of Joint Coordinating Committee and Professional Team members based on the Minister's Orders No.575.

Ms. Nergui also proposed N. Oyuntsetseg as Project Coordinator and M. Baasankhu as an assistant Project Coordinator. The JCC members agreed to the proposal.

6. Discussion on the indicators of Project Design Matrix

Mr. Ishii explained the logic of Project Design Matrix and proposed the alternative indicators in order to give shape to the Project Design Matrix agreed between MECS and JICA in December 2009.

Ms. Sh. Oyuntsetseg, the specialist of Institute of Education (Project Coordinator) mentioned that the expression of indicator on teacher's contest (Output No.4) should be modified or deleted, while she understood the importance to set the indicator to facilitate the teaching method improvement. Mr. Ishii agreed to modify the indicator.

Ms. C. Nyamgerel, suggested to change the pre-conditions from 'New Education Standard will not

be changed' to 'the principle of teaching method in the education standards will not be changed'.

Mr. Ishii noted her idea, however mentioned that the pre-conditions would not be changed, since it stipulated the condition before the project's commencement.

Related to the indicator of Output No. 1, Ms. C. Nyamgerel mentioned that the quality of trainers should be maintained. Thus, she suggested that reconsidering implementing the exam at Nov. training.

Mr. Ishii and Ms. Suzuki agreed to the idea of securing the quality of trainers. They answered that the training of trainers would be conducted, and survey on the participants' understanding would be conducted to check the trainers' performance.

7. Introduction of the 2nd year Project activities (2011/2012)

Ms. B. Hishigbayar, Project Expert on Training and "Lesson Study" Coordinator introduced the 2nd year Project activities (2011/2012).

8. Discussion on the sustainability of the project outcome

Ms. N. Nergui presented the idea how to sustain the project outcome. She explained that the teaching plan development, lesson implementation, evaluation and revision of the lesson were defined as the work for teachers in the Minister's Order No.314 and 561 in 2009. She emphasized that 'Lesson Study' was a good tool for the teaching method improvement.

Ms. N. Nergui also stated the possibility to utilize the Project outputs in 1) the in-service training provided to teachers with credits/selective training, 2) the compulsory in-service training, and 3) the curriculum of teacher's training colleges (pre-service training) based on the Minister's Order No.72 and the existing education law. The training module development for the above usage should be considered in the 2nd year Project activities. She also mentioned the possibility to establish the national level or regional level of teaching method study groups to continue the teaching method improvement.

Ms. C. Nyamgerel suggested collecting the feedbacks on the difficulties and issues from non-model districts/aimag may have on "Lesson Study" implementation during the training in November 2011 to find out the good way to disseminate the activities of teaching method improvement.

Mr. Ishii agreed to Ms. C. Nyamgerel's point on the program of November training and encouraged the Professional Team to prepare for effective training modules.

9. Closing remark

Mr. Atsumu Iwai, Senior Representative of JICA Mongolia Office gave the closing address with his appreciation to the participants contributing to the education sector in Mongolia. He expected that MECS would contribute to secure the sustainability of the Project outcome and requested MECS to prepare for enough budgets to conduct the training in district/aimag level. He also shared the JICA's idea to continue dispatching volunteers in education sector.

Summary of Agreements confirmed at the JCC meeting:

1. Content of the draft Minister's Order on 2011 budget for the project activities from the Mongolian budget was supported by the JCC members.
2. There was no objection from the participants on nomination of Ms N. Oyuntseseg as a Project Coordinator (Implementation) who would work part-time. (Ms M. Baasanhuu assists Project Coordinator (Implementation).)
3. Project Coordinator (implementation) will develop a budget for 2012 before 1 July 2011, and submit it to the Department of General Education.
4. Mr. Ishii, the Project Manager will revise the criteria of the Project Design Matrix by reflecting the suggestions addressed during the meeting.
The revised PDM is attached to this Minutes of Meeting.
5. Ms. Ch. Gantsetseg, a leader of Expert Team was assigned to provide results of expert evaluation and advice on general and crosscutting issues considering each module respectively.

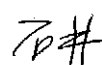
Attendance List

Mongolia side

Ch. Kulanda	Project Director/Vice Minister, MECS
N. Nergui	Project Coordinator (Policy)/ Senior Officer of General Education Department, MECS
Sh. Oyuntsetseg	Project Coordinator/ Specialist of Institute of Education
C. Gantesetseg	On behalf of Mr. Jigjid, Project Coordinator (budget management)/ Officer of Financial Department, MECS
G. Gantsetseg	Officer of General Education Department, MECS
Ts. Narantsetseg	Director, Teaching Methods Improvement Center (Primary Education) Mongolian State University of Education
E. Munguntulga	Mongolian State University of Education
O. Chuluuntsetseg	Mongolian State University of Education
L. Munkhtuya	On behalf of Director, Teaching Methods Improvement (IT), Mongolian State University of Education
N. Oyuntsetseg	National University of Mongolia
B. Burmaa	National University of Mongolia
M. Ganbat	National University of Mongolia
Ch. Nyamgerel	National University of Mongolia
U. Tsendsuren	Specialist, Department of Education, Ulaanbaatar
B. Tsogbadrakh	Specialist, Department of Education, Ulaanbaatar
M. Baasankhuu	Assistant to Project Coordinator (Implementation)

Japan side

Atsumu Iwai	Senior Representative of JICA Mongolia Office
Kazue Minami	Representative, JICA Mongolia Office
P. Enkhzaya	Program Officer of Education, JICA Mongolia Office
Tetsuya Ishii	Project Expert (Project Manager/Training Planning)
Sayaka Suzuki	Project Expert (Training Plan/Monitoring and Evaluation)
B. Hishigbayar	Project Expert (Training and “Lesson Study” Coordinator)
G. Norjmaa	Project Interpreter
Kh. Ganbaatar	Project Interpreter
L. Selenge	Interpreter



PROJECT DESIGN MATRIX (PDM₂)

Project Period: April 2010 – March 2013 (Three Years)

Target Area: Songinokhairkhan District of Ulaanbaatar city, Bulgan and Zavkhan Aimag

Version: No. 2 Date June 20, 2011

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal The child-centered teaching methods (“the Teaching Methods”) are implemented in model and other Districts/Aimags.</p>	<ol style="list-style-type: none"> At least 50% of schools in non model Districts/Aimags implement “Lesson Study” at least twice every year. The training on “the Teaching Methods” is conducted in at least 50% of non model District/Aimag. 	<p>I&2 Report from all District/Aimag Education Departments</p>	
<p>Project Purpose Systems to disseminate “the Teaching Methods” nationwide are strengthened.</p>	<ol style="list-style-type: none"> “The Teaching Methods” are practiced in the following 8 subjects in model schools. *Physics, Chemistry, Human and Environment, Human and Nature, Primary Math, Secondary Math, IT, Integrated Studies “Lesson Study” is conducted at least twice in at least the 50% of schools in model District/Aimag every year. At least 50% of Education Department of non model Districts/Aimags formulates the training plan on “the Teaching Methods”. 	<ol style="list-style-type: none"> Endline Survey Report from Education Departments of model District/Aimags Report from all District/Aimag Education Departments 	<p>Budget for in-service teacher training will not be cut down to a large extent</p>
<p>Outputs 1. Capacities of “the District/Aimag Teams”* in all District/Aimags to disseminate “the Teaching Methods” are enhanced. **The District/Aimags Team” is composed of supervisors, school management posts, and teachers.</p>	<ol style="list-style-type: none"> Training participants increase their satisfaction and understanding. Training participants’ behavior is positively changed. “District/Aimag Team” members attend the training based on the training package (at least 8 participants) 	<ol style="list-style-type: none"> Survey by Professional Team Monitoring report by Professional Team Attendance list of the training 	

<p>2. Models of "Lesson Study" are developed in model District/Aimags.</p>	<p>1. Model schools develop "Lesson Study Implementation Plan".</p> <p>2. Model schools conduct "Lesson Study" at least twice a year in the eight subjects.</p> <p>3. Quality of "Lesson Study" at model schools is improved.</p> <p>4. Satisfaction level of participants in "Lesson Study" at model schools is increased.</p>	<p>1, 2, 3. "Lesson Study Implementation Report" from model schools</p> <p>4. "Lesson Study Implementation Report" from model schools, "Monitoring Report" from Professional Team, and Endline Survey</p>	
<p>3. Capacities of schools in model District/Aimags to practice "the Teaching Methods" are enhanced.</p>	<p>1. At least 50% of teachers and management posts of model District/Aimags schools complete the training on "the Teaching Methods" based on the training package.</p> <p>2. At least 50% of non model schools of model District/Aimags formulate "Lesson Study implementation plan".</p> <p>3. Lessons learnt and recommendation on teaching methods improvement from model District/Aimags are collected.</p>	<p>1&2. "Monitoring Report" from Professional Team and "Training Report" from Education Department</p> <p>3. Training Management Module</p>	
<p>4. The environment to disseminate and establish "the Teaching Methods" nationwide is improved.</p>	<p>1. The training package is introduced to teacher training colleges at least once and, at least one college considers utilization of training package.</p> <p>2. Policy recommendation is adopted by Ministry of Education, Culture and Science (MECS) in its annual policy objectives.</p>	<p>1. Progress Report of the Project</p> <p>2. MECS annual policy objectives</p>	
<p>Activities</p> <p>0-1. The Professional Team for the Project at Professional Level (hereinafter referred to as "the Professional Team") which is composed of Training Package writers, and trainers (officials of Institute of Education, instructors of 4 Teaching Method Improvement Centers, principals and teachers of model schools of the previous project, supervisors and so on) is organized.</p> <p>0-2. MECS selects model District/Aimags.</p>	<p>Inputs</p> <p>Japanese side</p> <p>1. Personnel - Expert Leader / Training Planning / Dissemination of "the Teaching Methods" / Monitoring and Evaluation / Coordinator</p> <p>2. Counterpart training in Japan</p>	<p>Mongolian side</p> <p>1. Counterpart</p> <p>2. Necessary expenses for Counterpart</p> <p>3. Training expenses not covered by Japanese side</p> <p>4. Expenses for monitoring not</p>	<p>Most of "the Professional Team" member and members of "the District/Aimags Teams" will not resign.</p>

70#

<p>1-1-1 "The Professional Team" develops training packages for "the District/Aimag Teams" in model District/Aimag.</p> <p>1-1-2 "The Professional Team" revises the training packages through analysis of the results of monitoring mentioned in activity 2-3 and 3-3.</p> <p>1-1-3 "The Professional Team" conducts trainings for "the District/Aimag Teams" in all District/Aimag by utilizing training packages revised in activity 1-1-2.</p> <p>1-1-4 "The Professional Team" gives technical assistance to "the District/Aimag Teams" in all District/Aimag if necessary.</p> <p>1-2-1 Baseline survey of model District/Aimag is conducted.</p> <p>1-2-2 The MECS approves model schools in model District/Aimag proposed by District/Aimag Education Department.</p> <p>1-2-3 Model District/Aimag select "the District/Aimag Team" in model District/Aimag.</p> <p>1-2-4 "The Professional Team" conducts training for "the District/Aimag Teams" in model District/Aimag.</p> <p>2-1 "The District/Aimag Teams" in model District/Aimag make implementation plans for "Lesson Study" in model District/Aimag.</p> <p>2-2 "The District/Aimag Teams" in model District/Aimag conduct "Lesson Study" at model schools according to the plans mentioned in activity 2-1.</p> <p>2-3 "The Professional Team" monitors "Lesson Study" at model schools and gives advice.</p> <p>2-4 Model schools reflect the result of monitoring and advice from "the Professional Team" to next "Lesson Study."</p> <p>3-1 "The District/Aimag Teams" in model District/Aimag make plans of training for school management posts and teachers, including the observation of "Lesson Study" at model schools.</p> <p>3-2 "The District/Aimag Teams" in model District/Aimag conduct training according to the plans mentioned in activity 3-1.</p> <p>3-3 "The Professional Team" monitors the training mentioned in activity</p>	<p>3. Provision of Equipment</p> <p>4. Training Expenses (training for "the District/Aimag teams")</p> <p>5. Expenses for "the Professional Team's" Monitoring</p> <p>6. Local Expenses for Japanese Expert</p>	<p>covered by Japanese side</p> <p>5. Office space for Japanese experts</p> <p>6. Other expenses</p>	<p>Pre-conditions</p> <p>"New Education Standard" will not be changed.</p>
---	---	--	--

70#

<p>3-2, and gives advice to “the District/Aimag Teams” in model District/Aimags.</p> <p>3-4 “The District/Aimag Teams” in model District/Aimags reflect the advice from “the Professional Team” to the next training plans.</p> <p>4-1 “The Professional Team” introduces the training packages revised in activity 1-1-2 to Professional and private teacher training colleges.</p> <p>4-2 “The Professional Team” researches “Lesson Study” in Japan and other countries, and analyses the results of monitoring in activity 2-3.</p> <p>4-3 “The Professional Team” recommends to MECS policies for establishing “Lesson Studies” at school levels.</p> <p>4-4 Institute of Education incorporates implementation “the Teaching Methods” as one of the criterion of the Professional teacher contest.</p>	
--	--

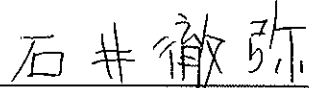
**MINUTES OF MEETING ON
JOINT COORDINATING COMMITTEE
FOR
TECHNICAL COOPERATION PROJECT ON
STRENGTHENING SYSTEMS FOR IMPROVING AND DISSEMINATING
CHILD-CENTERED TEACHING METHODS IN MONGOLIA**

**Agreed upon between
MINISTRY OF EDUCATION AND SCIENCE
and
JICA Project Team**



**Ms. Bandikhuu URGAMALTSETSEG
Vice Minister
Ministry of Education and Science
Mongolia**

Ulaanbaatar, 18 October 2012



**Mr. Tetsuya Ishii
Project Manager
JICA Project Team**

Based upon the official agreement made between the Ministry of Education, Culture and Science (hereinafter referred to as “MECS”) and Japan International Cooperation Agency (hereinafter referred to as “JICA”) in Ulaanbaatar on 8 December 2009, JICA dispatched the Project Team headed by Mr. Tetsuya Ishii to Mongolia to implement the Technical Cooperation Project on Strengthening Systems for Improving and Disseminating Child-Centered Teaching Methods in Mongolia (hereinafter referred to as “the Project”) in April 2010.

The Joint Coordinating Committee meeting was held on 18 October 2012 chaired by Ms. Bandikhuu URGAMALTSETSEG, Vice Minister of Ministry of Education and Science (hereinafter referred to as “MES”) to agree on the results of Terminal Evaluation done by the Joint Evaluation Team.

1. Opening Remark by the Vice Minister

Ms. B. Urgamaltsetseg, the Vice Minister (Project Director) opened the meeting.

2. Introduction of Attendance

Mr. Ishii (Project Manager) and Ms. N. Oyuntsetseg (Project Implementation Coordinator) introduced the participants of Mongolian side. Mr. Takahashi (the leader of Terminal Evaluation Team) introduced the members of Terminal Evaluation Team and Mr. Iwai (Deputy Resident Representative of JICA Mongolia Office).

3. The report of Terminal Evaluation results

1) Outline of Terminal Evaluation

Mr. Matsuyama (Education Planning, Terminal Evaluation Team) explained the outline of Terminal Evaluation including the objectives and methodology, and Project Summary.

2) Achievement

Ms. Tsubone (Evaluation and Analysis, Terminal Evaluation Team) presented the achievement of the Project as follows.

- Output 1, 2, 3, and 4 were evaluated mostly achieved. However, the satisfaction level of the training participants (Output 1) and the quality of lesson (Output 2) have room for improvement.
- Project Purpose was evaluated mostly achieved. However, the plan of action to disseminate the Teaching Methods has not been developed yet.

- Terminal Evaluation Team evaluated that Overall Goal would be achieved in 3-5 years after the termination of the Project if appropriate supports are provided by MES.

3) Evaluation by Five Criteria

Ms. Tsubone presented the evaluation results based on the five criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability) as follows.

- Relevance, Efficiency and Impact were evaluated high, while Effectiveness was evaluated moderately high.
- Sustainability was evaluated medium. It is because the budget for dissemination has not been secured, the detailed plan of Institute of Upgrading Teachers Profession (hereinafter referred to as "IUTP") has not been developed, the evaluation system for teachers does not take the Teaching Methods into consideration and the continuous professional development is necessary.

4) Conclusion

Mr. Matsuyama presented the conclusion of the results. The Project was successfully implemented because Project Purpose was mostly achieved, Overall Goal was partly achieved, the capacity of stakeholders was strengthening and the positive impacts were observed. However, the understanding on the Teaching Method needs to be improved, and the concrete action plan needs to be developed by IUTP and MES.

Regarding the sustainability of the project outcomes, MES submitted the request to continue the Project on 17 October 2012. The Terminal Evaluation Team will discuss the request with JICA Head quarters.

5) Recommendations

There were four recommendations during the Project from Terminal Evaluation Team.

- When MES develops the concrete plan for disseminating the teaching methods, the utilization of Professional Team Members should be involved. Their role and responsibility needs to be made sure in consultation with the Project Team. Professional Team approved by the minister's order was strongly recommended to be continued after the project termination.
- The website should be maintained by IUTP.
- The lesson observation sheet developed by the Project needs to be utilized nationwide, so that all stakeholders are able to observe lessons based on the same points of view. It will contribute to upgrading the lesson quality.

- The Endline Survey needs to be completed promptly.

There were two recommendations after the Project from Terminal Evaluation Team.

- Professional Team and Specialists in Departments of Education (DECs) are expected to play a role as the external observers to enhance the quality of lesson and Lesson Study. To support the activities by Professional Team, the teleconference systems should be utilized and the linkage between research and Lesson Study needs to be strengthened. To encourage the activities of the specialists in DECs, the monitoring work for Lesson Study should be installed in their professional responsibilities, capable personnel should be appointed and the continuous training is needed.
- The experience of Lesson Study implementation should be positively evaluated in the teacher's career development.

4. Discussion on the results

The Vice Minister appreciated Terminal Evaluation Team for presenting the results, and invited MES officials, Professional Team, and Project Team to provide comments.

Ms. A. Tuya stated that the MES would continue the activities done by the Project in corporation with IUTP and to obtain Professional Team's opinions on the future cooperation between MES and Professional Team.

Mr. Ganbat (the leader of Physics Team) expressed his satisfaction on the evaluation results. He understood the project purpose as to develop teachers and students and believes that students would be positively changed if teachers' teaching methods and attitude were changed. As this was the starting point to develop teachers, he strongly recommended that all stakeholders including MES, universities, Institute of Education, IUTP and Professional Team must be involved in the planning and the continuation of the Project was required.

Ms. Pagmasuren (the member of "Human & Environment" Team), who engaged in the Project for 3 years, felt that her understanding on the Teaching Methods still needed to be upgraded. She was worried that the project outcomes would decrease if the Project ends.

Ms. Nyamgerel (the leader of Chemistry Team), engaged in the Project since 2006, appreciated the Project and explained the Project enhanced not only the ability of Professional Team members but

also school teachers in Mongolia. She observed that other projects were difficult to develop such outcomes. She noticed that her understanding on the Teaching Method in 2006 was not sufficient and she wanted to improve herself still now. She provided the following three comments:

- First, the project activities should be taken over by the IUTP, however the sustainability should be secured by MES. As the recommendation from Terminal Evaluation Team, the teacher's tasks related with Lesson Study should be involved in the teacher's professional responsibilities stated in the official documents.
- Second, regarding the utilization of Professional Team. She worked for the ADB Project to develop planning for teacher colleges and provided the information on the Project to the ADB Project. According to the ADB Project, the situation of schools should be researched well for the teacher college reform. The bridge between the teacher college reform and the activities in school level needs to be created.
- Third, she would like to know the possibility whether JICA is able to support the programs in universities such as setting the master course on Lesson Study, and "Sandwich" program.

Ms. A. Tuya mentioned that the Project real achievement would be appeared after 3-5 years. IUTP must continue the job and reach Overall Goal. She stated that MES would take the comments of Ms. Nyamgerel seriously. She understood the planning was very important. She expected Professional Team would work together with MES to develop the plan. She would like to request again that the Project would be continued and wished that this point was also reflected in the minutes which were going to be signed between Terminal Evaluation Team and the Vice Minister. MES expects the Project will be continued to develop the plan and training module for IUTP as well.

Mr. Takahashi said that he was impressed by the comments from Professional Team those who really understood the Project and appreciated the efforts of Project and Professional Team.

Mr. Ishii commented on the recommendation. The Project Team is ready to advise the MES on professional development of DEC specialists and Professional Team members.

The Project involved many stakeholders such as MES, Professional Team members, Department of Education and Culture, school principals/managers, and teachers. There were some challenges in the past three years. However, it was successfully implemented because of their support finally. He expressed his appreciation to all people who were involved in the Project.

Ms. N. Oyuntsetseg appreciated the all stakeholders, especially Professional Team and JICA Experts including the experts from Tokyo Gakugei University. She also appreciated the patient and hard-working Japanese people, who always worked with Mongolia side, and all stakeholders in

Mongolia.

The Vice Minister stated that MES requested the extension of on the Project. She noted that the Project achieved many outputs and asked for the continuous support from Professional Team and JICA. The Vice Minister will call a meeting with Professional Team to discuss about the future plan.

7. Signing of Minutes of Meetings

8. Closing Remarks

The Vice Minister stated that the cooperation between Mongolia and Japan should be continued. JICA assistance contributed to all teachers in Mongolia. MES will play an important role in securing sustainability.

Mr. Iwai thanked for the Vice Minister to chair this meeting. He explained the assistance policy of JICA towards Mongolia. The first policy was formulated around six years ago and the latest one was settled this year. In both policies, the educational sector is very important. To improve the quality of education JICA implemented this project. JICA constructed the primary school classrooms for improving access to education. Both projects were highly evaluated and JICA Mongolia Office expected Mongolia side would enhance its sustainability. The continuation of this project will be discussed, the higher education project has started, and further cooperation between MES and JICA is expected.

Attendance List

Mongolia side

B. Urgamaltsetseg	Project Director/Vice Minister, MES
Ch. Bayarkhuu	Project Coordinator (Finance)/ Head of Financial Department, MES
A. Tuya	Project Coordinator (Policy)/ Head of Basic and Secondary Education Division, MES
N. Tuya	Project Coordinator (External Cooperation)/ Head of External Cooperation Division, MES
N. Oyuntsetseg	Project Coordinator (Implementation)/ National University of Mongolia
J. Narantuya	Project Coordinator / Officer of Human Resource Division, Policy, Strategy and Planning Department, MES
Sh. Oyuntsetseg	Project Coordinator/ Specialist of Institute of Education
Oyumbileg	External Cooperation Division, MES
Oyuntungalag	Vice Director, IUTP
L. Munkhtuya	Director of Teaching Methods Improvement (IT) / Mongolian State University of Education
G. Yunchimaa	Leader of "Human & Nature" Team / National University of Mongolia
M. Ganbat	Leader of Physics Team / National University of Mongolia
Ch. Nyamgerel	Leader of Chemistry Team / National University of Mongolia
T. Ganbaatar	Leader of Secondary Mathematics Team / Mongolia State University of Education
Ts. Pagmasuren	On behalf of leader of "Human & Environment Team / Mongolia State University of Education

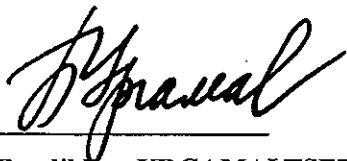
Japan side

Atsumu Iwai	Deputy Resident Representative of JICA Mongolia Office
Moeko Imayoshi	Cooperation Planning 1, JICA Terminal Evaluation / JICA Mongolia Office
Ch. Oyuntsetseg	Cooperation Planning 2, JICA Terminal Evaluation / JICA Mongolia Office
Satoru Takahashi	Leader of JICA Terminal Evaluation Team
Takeshi Matsuyama	Education Planning, JICA Terminal Evaluation Team
Chie Tsubone	Evaluation and Analysis, JICA Terminal Evaluation Team

N. Khulan	Interpreter, JICA Terminal Evaluation
Tetsuya Ishii	Project Expert (Project Manager/Training Planning)
Sayaka Suzuki	Project Expert (Training Planning/Monitoring and Evaluation)
B. Hishigbayar	Project Expert (Training and “Lesson Study” Coordinator)
Kh. Ganbaatar	Project Team
M. Baasankhuu	Project Team

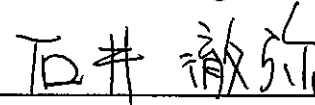
**MINUTES OF MEETING ON
JOINT COORDINATING COMMITTEE
FOR
TECHNICAL COOPERATION PROJECT ON
STRENGTHENING SYSTEMS FOR IMPROVING AND DISSEMINATING
CHILD-CENTERED TEACHING METHODS IN MONGOLIA**

**Agreed upon between
MINISTRY OF EDUCATION AND SCIENCE
and
JICA Project Team**



**Ms. Bandikhuu URGAMALTSETSEG
Vice Minister
Ministry of Education and Science
Mongolia**

Ulaanbaatar, 26 August 2013



**Mr. Tetsuya Ishii
Project Manager
JICA Project Team**

Based upon the official agreement made between the Ministry of Education and Science (hereinafter referred to as “MES”) and Japan International Cooperation Agency (hereinafter referred to as “JICA”) in Ulaanbaatar on 8 December 2009, JICA dispatched the Project Team headed by Mr. Tetsuya Ishii to Mongolia to implement the Technical Cooperation Project on Strengthening Systems for Improving and Disseminating Child-Centered Teaching Methods in Mongolia (hereinafter referred to as “the Project”) in April 2010.

The Joint Coordinating Committee meeting was held on 26 August 2013 chaired by Ms. Bandikhuu URGAMALTSETSEG, Vice Minister of MES to agree on the results of Project at the end of the cooperation period.

1. Introduction of Attendance

Ms A. Tuya (Project Coordinator) and Mr. Ishii (Project Manager) introduced the participants of Mongolian and Japanese side.

2. Opening Remark by the Vice Minister

Ms. B. Urgamaltsetseg, the Vice Minister (Project Director) opened the meeting. The Vice Minister appreciated the Project for 1) its wide scope of activities, and 2) its effective and efficient implementation. She also mentioned that the Project contributed to the education reform of Mongolia. The Project was supposed to be terminated at the end of February 2013. However, following to the request from the MES, the Project was extended to the end of August 2013. The Project's activities and outputs will be taken over by the Institute for Upgrading Teachers' Profession (hereinafter referred to as “IUTP”).

3. The Report of Project results

1) Outline of Achievement of the Project

Ms. Suzuki (Training Planning/Monitoring and Evaluation Expert), explained the outline of achievement of the Project using the Project Design Matrix. Data for each indicator is updated from the one of the Terminal evaluation.

Output 1:

Capacities of “the District/Aimag Team” in all district/Aimags to disseminate the teaching methods are enhanced.

Indicator 1-1: Training participants increase their satisfaction and understanding.

Level of Satisfaction

The Project asked the following five questions to the participants of the training targeting all districts/Aimags in 6 venues.

- 1) Are the content and the objective consistent?
- 2) Are the lectures easy to understand?
- 3) Is the time allocation/management effective?
- 4) Are the balance between lecture and practice adequate?
- 5) Are the handouts and venue arrangement adequate?

The average satisfaction level was more than four (4) out of five-scale evaluation in 2011. The average score was 3.9 in 2012. On the contrary to the training in 2011, the level of satisfaction did not decrease until the last day of the training.

Level of understanding

The Project asked the following two questions to the participants of the training in 6 venues on the last day of the training in 2011.

- 1) What is a Kyozaï Kenkyu?
- 2) What is a teaching method which supports children's development?

In 2012, the following questions were asked on the first day and the last day.

- 1) What is a teaching method which supports children's development
- 2) What is a Lesson Study?
- 3) What is a Kyozaï Kenkyu?

The level of understanding improved, if we compare the answers of the first day and the last day.

Indicator 1-2: Training participants' behavior is positively changed.

The Project asked the representatives from 21 Aimags/9 Districts about their implementation of Lesson Study, training related to Lesson Study, and development of Lesson Study implementation plan.

- Out of 699 schools which reported to the Project team, 487 schools (approximately 70% conducted Lesson Study) at least twice in 2012/2013.
- Out of 21 aimags, 16 aimags conducted the training related to Lesson Study. Accumulated number of participants in the training is 11,149.
- 21 aimags and 9 districts formulated the Lesson Study implementation plan both in 2011/2012 and in 2012/2013.

- 10 aimags formulated the Lesson Study implementation in 2013/2014.

Indicator 1-3: “District/Aimag Team” members attend the training based on the training package (at least 8 subjects)

- At least 11 participants from the 20 aimags /9 districts attended the training conducted in 2011. The training was arranged separately for Arkhangai Aimag Team because of the traffic accident on their way to the training venue. 10 participants from the 20 aimags/9 districts attended the training conducted in 2012.

Summary of Achievement on Output 1

As shown in the above 3 indicators, output 1 was achieved.

Output 2: Models of “Lesson Study” are developed in model District/Aimag.

Indicator 2-1: Model schools develop “Lesson Study Implementation Plan.”

- Since 2010, all model schools formulated the Lesson Study implementation plan.

Indicator 2-2: Model schools conduct “Lesson Study” at least twice a year in the 8 subjects.

- In 2010/2011, no model schools conducted Lesson Study twice in the 8 subjects.
- In 2011/2012, 8 schools out of 14 models conducted the Lesson Study twice in the 8 subjects.
- In 2012-2013 13 schools out of 14 model schools conducted the lesson study twice in 8 subjects. The remaining one school is the smallest model school. The school had a difficulty in conducting IT research lesson.

Indicator 2-3: Quality of “Lesson Study” at model schools is improved.

Quality of Lesson Study was assessed in the monitoring of model schools by Professional Team members. The Lesson Study was assessed with the following three criteria: 1) lesson preparation, 2) lesson implementation and observation, and 3) lesson review session.

- Comparison was made between September 2012 and March/April 2013, improvements were made in the three criteria.

Indicator 2-4: Satisfaction level of participants in “Lesson Study” at model school increased.

A survey was conducted in September/October 2012. The question asked the teachers of model schools on the satisfaction level of Lesson Study in 2010 retrospectively, and in 2012. The answers “Very satisfied” and “Satisfied” increased significantly.

Summary of Achievement on Output 2

- As examined in the above 4 indicators, output 2 was achieved.
- In addition to the degree of achievement of Output2 by the 4 indicators, it was observed that the model of Lesson Study was being developed in Mongolia. The models are explained in the modules of “Module for school administrators”, and “Management Handbook for Teaching Method dissemination.”

Output 3: Capacities of schools in model District/Aimags to practice “the Teaching Methods” are enhanced.

Indicator 3-1: 70% of teachers and management posts of all schools in model District/Aimags complete the training on “Teaching Method” based on the training package.

- In model District/Aimags, more than 70 % of teachers and management posts participated in the training as of 2011/2012.

Indicator 3-2: 80% of all school in model District/Aimag formulate “Lesson Study” implementation plan

- In model District/Aimags, all schools except the four schools in Bulgan Aimag, the Lesson Study implementation plan was formulated. Instead of conducting the Lesson Study at their own schools, teachers of the four schools in Bulgan Aimag -which are located in *bag* (a sub unit of *soum*) participated in the research lessons conducted in neighboring schools in 2011/2012.

Indicator 3-3: Lessons learnt and recommendation on teaching methods improvement from model District/Aimags are collected.

- “Management Handbook for Teaching Method Dissemination” and “Module for school administrators” which compiled the lessons learnt and recommendation on teaching method improvement, were developed.

Summary of Achievement on Output 3

- As examined in the above 3 indicators, output 3 was achieved.

Output 4: The environment to disseminate and establish “the Teaching Methods” in PRESET is improved.

Indicator 4-1: “The Teaching Methods” in the training package is introduced to PRESET.

- In National University of Mongolia’s Chemistry/Chemical Engineering Department, Physics/Electronic Engineering Department, and in Department of Geology/Geography, the

lesson named “Lesson Study Method” are taught.

- “Module for Teacher Education Institutions” which can be utilized in delivering the subject on the Lesson Study in the Teacher Education Institution, was developed

Indicator 4-2: Policy recommendation is adopted by Ministry of Education and Science in its annual policy objectives

- The implementation of Lesson Study was incorporated in 2010/2011 objectives of MES. The objectives included are “All teachers study teaching methods to conduct Lesson Study”, and “Each school formulates Lesson Study implementation plan, and conduct it more than twice in an academic year.

Summary of Achievement on Output 4

- As examined in the above 2 indicators, output 4 was achieved.

Project Purpose: Systems to disseminate “the Teaching Methods” nationwide are strengthened.

Indicator 1: The quality lessons utilizing the Teaching Methods in the 8 subjects are practiced in model schools.

- In the Project activities, the Lesson Study monitoring was conducted five times.
- In every model schools, efforts were made to improve their lessons. The quality of lesson is improved.
- However, there is no end in lesson quality improvement.

Indicator 2: “Lesson Study” is conducted at least twice in at least 70% of schools in model District/Aimag every year

- In 2011/2012, in every model District/Aimag, more than 70% of schools conducted Lesson Study at least twice a year.

Indicator 3: All Districts/Aimags formulate the training plan on “Teaching Methods”

- All Districts and Aimags formulated the training plan both in 2011/2012, and in 2012/2013.

Indicator 4: Political, financial and human resources commitments are made by MES.

- MES issued many directives/instructions. Such directives include:
 - 2011.9.9 Instruction of Director of General Education No. 3/4973 *Reducing the burden of Professional Team members” encouraging their further participation in the Project activity,*
 - 2012.1.18 MES Minister’s Order No.24 *Implementation of training to improve teachers’ professionalism,*
 - 2012.1.31 Instruction of Director of General Education No. 3/427 *Implementation of PRESET to improve professional capacity of teachers to Teacher Education Institutions, and*

- 2012.9.10 MES Minister's Order A-13 *Implementation of training in non-model Aimags*
- IUTP formulated their training plan. In its "Basic Training", the Teaching Method utilizing Lesson Study is conducted.

Summary of Achievement on Project Purpose

As examined in the above indicators, Project Purpose was achieved.

Overall Goal: The child-centered teaching methods are implemented in model and other Districts/Aimags

Indicator 1: 60% of all schools in the whole country implement Lesson Study at least twice every year.

- Out of 699 schools which reported to the Project team, 487 schools (approximately 70%) conducted Lesson Study at least twice in 2012/2013.

Indicator 2: The training on the Teaching Methods is conducted in all District/Aimags

- Out of 21 aimags, 16 aimags conducted the training related to Lesson Study. Accumulated number of participants in the training is 11,149.

Significance of the Project

- Indicators of Project Purpose and Outputs were mostly achieved within the original Project period.
- However, as the Project duration was extended, *System to disseminate the Teaching Methods nationwide* (Project Purpose) are further strengthened, and it can be assumed that *The child-centered teaching methods are implemented in model and other Districts/Aimags* (Overall Goal) will be achieved within 3 to 5 years after the Project period.
- Supporting factors for the above are : 1) The Government of Mongolia's education reform, emphasizing "each child's development", and 2) re-establishment of IUTP, encouraged the shift to the Teaching Method which support Children's Development. The recognition and needs for the Teaching Method was improved as well.

Towards the end of Project

The following issues were presented to the participants.

- 1) Continued Teaching Method Improvement utilizing the Lesson Study

- How to further incorporate the Lesson Study into MES policy of “Each child’s Development”
 - How to improve institutional arrangement on specialists’ appointment, and teachers’ professional development
 - How to utilize Training Modules in IUTP’s Teacher Training Program – 1st., 5th., 10th. Year teacher training program
 - How to utilize Training Modules in Department of Education and Culture’s (hereinafter referred to as DEC) Training Program- 2nd., 3rd., 4th. Year Teacher Training
 - How to incorporate Professional Team Members into IUTP’s National Trainer Team (*Үндэсний сургагч баг*) Members
- 2) Teacher Training Institutions
- 750 copies of the Module for Teacher Education Institutions were distributed to the Teacher Training Institutions. Effective utilization of the module is required.
- 3) Continued Improvement of Mongolian Teachers’ Professionality
- “Mongolian Association of Lesson Study (hereinafter “MALS)” - to be established as a NGO- will support school teachers’ capacity on study. Discussion should be made whether MALS should organize the National Conference on Lesson Study together with IUTP in 2014.

4. Discussion on the Project Results

- Ms. O. Oyuntungalag (Deputy Director, IUTP) explained that the IUTP formulated the training plan till 2016. IUTP plans to utilize the Project’s Professional Team members as “National Trainers (*Үндэсний сургагч баг*).” The National Trainers will cover 18 subjects. In addition to the IUTP’s own specialists, and the Project’s Professional Team members, principals and training managers will be included as trainers. IUTP plans to train about 64% of total teachers (17,600) of Mongolia by 2015/2016. The duration of basic training for teachers with 5 years’ experience were increased to 10 days. Out of 10 days, 3 days will be spent for Lesson Study. The training for teachers with 2 years’, 3 years’ and 4 years’ will be organized by Aimag DEC. Thus, the training modules were distributed to Aimag DEC.
- Ms N. Tuya (Director of Foreign Affair and Cooperation Division, MES) appreciated the Project. She mentioned that MES would like to utilize the lesson learnt from the Project activities.

- Ms Nyamgerel shared her experience in participating in the International Conference of World Association of Lesson Study (hereinafter referred to as “WALS”) in Singapore last year. The expenses were covered by National University of Mongolia and JICA Project. The first Mongolian conference of Lesson Study was held in August 2013. Those who made good studies and good presentations shall have the opportunity to present it in the international conference. She stated that support from MES on participation in international conference like WALS would be effective in obtaining the first-hand information on Lesson Study.
- Ms N. Oyuntsetseg (Project Coordinator) explained the progress of setting up MALS. The Association’s regulation is drafted. The meeting will be held shortly to discuss the detail, and start processing for registration as an NGO. MALS will facilitate collaboration between school teachers and university teachers.
- Ms J. Narantuya (Project Coordinator, MES) reported that the MES drafted the Minister’s order for teacher evaluation. In the Minister’s Order, implementation of Lesson Study is included as an item for evaluating teacher’s performance. Reform of Teacher Training Institutions is on-going in Mongolia. She mentioned that the Module for Teacher Training Institutions would be used effectively in the light of on-going Teacher Training Institutions.

5. Closing Remarks

Mr. Kato (Resident Representative, JICA Mongolia Office) thanked the participants of the JCC meeting for their contribution to the Project. He noted that the Project initiated the teaching method improvement involving school teachers. This approach is common in Japan while it was not so common in Mongolia. Participation of school teachers in the Project activities contributed to the successful implementation of the Project.

He also recommended that the IUTP and Institute of Education should utilize the Professional Team members who can be a bridge between schools and policy makers.

Feedback or suggestion from schools teachers on teaching materials, textbook, and the education standard would be useful for improving the quality of education in Mongolia.

Attendance List

Mongolia side

B. Urgamaltsetseg Project Director/Vice Minister, MES
A. Tuya Project Coordinator (Policy)/ Head of Basic and Secondary Education Division, MES
N. Tuya Project Coordinator (External Cooperation)/ Director of Foreign Affair and External Cooperation Division, MES
N. Oyuntsetseg Project Coordinator (Implementation)/ National University of Mongolia
J. Narantuya Project Coordinator / Officer of Human Resource Division, Policy, Strategy and Planning Department, MES
Sh. Oyuntsetseg Project Coordinator/ Institute for Upgrading Teachers' Profession
D. Lyankhua Expert in charge of MES related Project Coordination
O. Oyuntungalag Vice Director, IUTP
L. Munkhtuya Director of Teaching Methods Improvement (IT) Center/ Mongolian State University of Education
G. Yumchimaa Leader of "Human & Nature" Team / National University of Mongolia
Ch. Nyamgerel Leader of Chemistry Team / National University of Mongolia
E. Choisuren On behalf of Leader of Secondary Mathematics Team / Mongolia State University of Education

Japan side

Toshinobu Kato Resident Representative, JICA Mongolia Office
Moeko Imayoshi Representative, JICA Mongolia Office
Ch. Oyuntsetseg Program Officer, JICA Mongolia Office
Tetsuya Ishii Project Expert (Project Manager/Training Planning)
Sayaka Suzuki Project Expert (Training Planning/Monitoring and Evaluation)
Kh. Ganbaatar JICA Project Team
G. Norjmaa JICA Project Team
D. Odgerel JICA Project Team

Attachment 7

Project Design Matrix

PROJECT DESIGN MATRIX (PDM₃)

Project Period: April 2010 – February 2013 (Three Years)

Target Area: Songinokhairkhan District of Ulaanbaatar city, Bulgan and Zavkhan Aimag

Version: No. 3 Date Sep.21, 2011

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Super Goal <u>The learning achievement of primary and secondary students is enhanced (contributing to the fulfillment of objectives of MDGs/EFA)</u></p>	<p>Achievement Test 1. <u>60 % of all schools in the whole country implement lesson study at least twice every year.</u> 2. <u>The training on the Teaching Methods is conducted in all District/Aimags.</u></p>	<p>Report from districts/aimags assessment</p>	
<p>Overall Goal The child-centered teaching methods (“the Teaching Methods”) are implemented in model and other Districts/Aimags.</p>	<p>1. <u>60 % of all schools in the whole country implement lesson study at least twice every year.</u> 2. <u>The training on the Teaching Methods is conducted in all District/Aimags.</u></p>	<p>1&2 Report from all District/Aimags Education Departments</p>	
<p>Project Purpose Systems to disseminate “the Teaching Methods” nationwide are strengthened.</p>	<p>1. <u>The quality lessons utilizing the Teaching Methods in the 8 * subjects are practiced in model schools.</u> 2. <u>“Lesson Study” is conducted at least twice in at least the 70% of schools in model District/Aimag every year.</u> 3. <u>All Districts/Aimags formulates the training plan on “the Teaching Methods”.</u> 4. <u>Political, financial and human resources commitment are made by MECS.</u></p>	<p>1. Endline Survey 2. Report from Education Departments of model District/Aimags 3. Report from all District/Aimags Education Departments 4. Ministerial Order by MECS</p>	<p>Budget for in-service teacher training will not be cut down to a large extent</p>

* 8 subjects: Physics, Chemistry, Human and Environment, Human and Nature, Primary Math, Secondary Math, IT, Integrated Studies

<p>Outputs</p> <p>1. Capacities of "the District/Aimag Teams"* in all District/Aimags to disseminate "the Teaching Methods" are enhanced. **The District/Aimags Team" is composed of supervisors, school management posts, and teachers.</p>	<p>1. Training participants increase their satisfaction and understanding. 2. Training participants' behavior is positively changed. 3. "District/Aimag Team" members attend the training based on the training package (at least 8 participants)</p>	<p>1. Survey by Professional Team 2. Monitoring report by Professional Team 3. Attendance list of the training</p>
<p>2. Models of "Lesson Study" are developed in model District/Aimags.</p>	<p>1. Model schools develop "Lesson Study Implementation Plan". 2. Model schools conduct "Lesson Study" at least twice a year in the eight subjects. 3. Quality of "Lesson Study" at model schools is improved. 4. Satisfaction level of participants in "Lesson Study" at model schools is increased.</p>	<p>1, 2, 3. "Lesson Study Implementation Report" from model schools 4. "Lesson Study Implementation Report" from model schools, "Monitoring Report" from Professional Team, and Endline Survey</p>
<p>3. Capacities of schools in model District/Aimags to practice "the Teaching Methods" are enhanced.</p>	<p>1. <u>70% of teachers and management posts of all schools in model District/Aimags</u> complete the training on "the Teaching Methods" based on the training package. 2. <u>80% of all schools in model District/Aimags</u> formulate "Lesson Study implementation plan". 3. Lessons learnt and recommendation on teaching methods improvement from model District/Aimags are collected.</p>	<p>1&2. "Monitoring Report" from Professional Team and "Training Report" from Education Department 3. Training Management Module</p>
<p>4. <u>The environment to disseminate and establish "the Teaching Methods" in PRESET is improved.</u></p>	<p>1. <u>"The Teaching Methods" in the training package is introduced to PRESET.</u> 2. Policy recommendation is adopted by Ministry of Education, Culture and Science (MECS) in its annual policy objectives.</p>	<p>1. Progress Report of the Project 2. MECS annual policy objectives</p>

24

Activities	Inputs Japanese side	Mongolian side	Most of "the Professional Team" member and members of "the District/Aimag Teams" will not resign.
<p>0-1. The Professional Team for the Project at Professional Level (hereinafter referred to as "the Professional Team") which is composed of Training Package writers, and trainers (officials of Institute of Education, instructors of 4 Teaching Method Improvement Centers, principals and teachers of model schools of the previous project, supervisors and so on) is organized.</p> <p>0-2. MECS selects model District/Aimags.</p>	<p>1. Personnel - Expert Leader/Training Planning/Dissemination of "the Teaching Methods" / Monitoring and Evaluation / Coordinator</p> <p>2. Counterpart training in Japan</p> <p>3. Provision of Equipment</p> <p>4. Training Expenses (training for "the District/Aimag teams")</p> <p>5. Expenses for "the Professional Team's" Monitoring</p> <p>6. Local Expenses for Japanese Expert</p>	<p>1. Counterpart</p> <p>2. Necessary expenses for Counterpart</p> <p>3. Training expenses not covered by Japanese side</p> <p>4. Expenses for monitoring not covered by Japanese side</p> <p>5. Office space for Japanese experts</p> <p>6. Other expenses</p>	
<p>1-1-1 "The Professional Team" develops training packages for "the District/Aimag Teams" in model District/Aimags.</p> <p>1-1-2 "The Professional Team" revises the training packages through analysis of the results of monitoring mentioned in activity 2-3 and 3-3.</p> <p>1-1-3 "The Professional Team" conducts trainings for "the District/Aimag Teams" in all District/Aimags by utilizing training packages revised in activity 1-1-2.</p> <p>1-1-4 "The Professional Team" gives technical assistance to "the District/Aimag Teams" in all District/Aimags if necessary.</p>			
<p>1-2-1 Baseline survey of model District/Aimags is conducted.</p> <p>1-2-2 The MECS approves model schools in model District/Aimags proposed by District/Aimag Education Department.</p> <p>1-2-3 Model District/Aimags select "the District/Aimag Team" in model District/Aimags.</p> <p>1-2-4 "The Professional Team" conducts training for "the District/Aimag Teams" in model District/Aimags.</p>			
<p>2-1 "The District/Aimag Teams" in model District/Aimags make implementation plans for "Lesson Study" in model District/Aimags.</p> <p>2-2 "The District/Aimag Teams" in model District/Aimags conduct "Lesson Study" at model schools according to the plans mentioned in activity 2-1.</p> <p>2-3 "The Professional Team" monitors "Lesson Study" at model schools and gives advice.</p> <p>2-4 Model schools reflect the result of monitoring and advice from "the Professional Team" to next "Lesson Study."</p>			

<p>3-1 "The District/Aimag Teams" in model District/Aimags make plans of training for school management posts and teachers, including the observation of "Lesson Study" at model schools.</p> <p>3-2 "The District/Aimag Teams" in model District/Aimags conduct training according to the plans mentioned in activity 3-1.</p> <p>3-3 "The Professional Team" monitors the training mentioned in activity 3-2, and gives advice to "the District/Aimag Teams" in model District/Aimags.</p> <p>3-4 "The District/Aimag Teams" in model District/Aimags reflect the advice from "the Professional Team" to the next training plans.</p> <p>4-1 "The Professional Team" introduces the training packages revised in activity 1-1-2 to Professional and private teacher training colleges.</p> <p>4-2 "The Professional Team" researches "Lesson Study" in Japan and other countries, and analyses the results of monitoring in activity 2-3.</p> <p>4-3 "The Professional Team" recommends to MECS policies for establishing "Lesson Studies" at school levels.</p> <p>4-4 Institute of Education incorporates implementation "the Teaching Methods" as one of the criterion of the Professional teacher contest.</p>		<p>Pre-conditions</p> <p>"New Education Standard" will not be changed.</p>
--	--	---

Attachment 8

Plan of Operation

Attachment 9

Assignment Records of Experts

Placement Records of Experts (The 1st year)

Designation	Name	Organization		2010/2011(The first year)												Days	MM	MM (in Japan)			
				3	4	5	6	7	8	9	10	11	12	1	2				3		
Assignment in Mongolia	Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	2	Plan													171	5.70		
				Actual	5	13	14			23	2	23	19	11	29	1	16	171	5.70		
	Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	4	Plan													195	6.50		
				Actual		1	25			18	30	16	29	25	16	195	6.50				
	Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	3	Plan													36	1.20		
				Actual	26	7									19	13	35	1.17			
	Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	3	Plan													36	1.20		
				Actual	28	10									19	13	36	1.20			
Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	3	Plan													30	1.00			
			Actual	28	10									11	27	30	1.00				
Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	3	Plan													30	1.00			
			Actual	28	10									16	5	31	1.03				
Training and "Lesson Study" Coordinator	Hishigebayar Badamsambu	KRI International Corp. (Individual)	4	Plan													201	6.70			
			Actual	5	8				1	1	19	30	17	21	7	5	201	6.70			
				Plan													Total (in Mongolia) Plan		699	23.30	
				Actual													Actual		699	23.30	
Assignment in Japan	Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	2	Plan													9		0.30	
				Actual	25	2												9		0.30	
	Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	4	Plan													12		0.40	
				Actual						1	12							12		0.40	
	Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	3	Plan													9		0.30	
				Actual													10,16,17,21,22,27-30	9		0.30	
	Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	3	Plan													9		0.30	
				Actual													10,16,17,21,22,27-30	9		0.30	
Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	3	Plan													9		0.30		
			Actual													16,17,21,22,24,27-30	9		0.30		
Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	3	Plan													9		0.30		
			Actual													8-10,16,17,21,22,24,27	9		0.30		
				Plan													Total (in Japan) Plan		57		1.90
				Actual													Actual		57		1.90
												Total		Plan	756	25.20					
												Actual		756	25.20						

: in Mongolia
 : in Japan
 : Covered by KRI International Corp.

Placement Records of Expert (The 2nd year)

Designation	Name	Organization		2011/2012 (The 2nd year) -plan												Days	MM	MM (in Japan)	
				2011(The 2nd year)-Actual															
				4	5	6	7	8	9	10	11	12	1	2	3				
Assignment in Mongolia	Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	2	Plan		■			■		■			■	166	5.53		
					Actual		■	(48)		■	(32)		■	(42)			122	4.07	
	Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	4	Plan		■			■		■		■		180	6.00		
					Actual		■	(53)		■	(30)		■	(45)			128	4.27	
	Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	3	Plan		■					■				30	1.00		
					Actual		■	(13)					■	(14)			27	0.90	
	Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	3	Plan					■				■		30	1.00		
					Actual					■	(5)			■	(11)		16	0.53	
	Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	3	Plan		■							■		30	1.00		
					Actual		■	(15)						■	(16)		31	1.03	
	Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	3	Plan										■	30	1.00		
					Actual									■	(16)		16	0.53	
	Training and "Lesson Study" Coordinator	Hishigebayar Badamsambuu	KRI International Corp. (Individual)	4	Plan	■	■			■		■		■		171	5.70		
					Actual	■	■	(60)		■	(30)		■	(41)			131	4.37	
				Plan										Total (in Mongolia) Plan			637	21.23	
				Actual										Actual			471	15.70	
Assignment in Japan	Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	2	Plan											0	0.00		
					Actual												0	0.00	
	Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	4	Plan											0	0.00		
					Actual											0	0.00		
	Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	3	Plan											9	0.30		
					Actual											9	0.30		
	Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	3	Plan											9	0.30		
					Actual											9	0.30		
	Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	3	Plan											9	0.30		
					Actual											9	0.30		
	Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	3	Plan											9	0.30		
					Actual											9	0.30		
					Plan										Total (in Japan) Plan			36	1.20
					Actual										Actual			36	1.20
												Total		Plan	673	22.43			
												Total		Actual	507	16.90			

■ : in Mongolia □ : in Japan ▨ : Covered by KRI International Corp.

Placement Records of Experts (The 3rd year)

Designation	Name	Organization	2012/2013 (The 3rd year)												Days	MM	MM (in Japan)								
			2	3	4	5	6	7	8	9	10	11	12	1				2	3	4	5	6	7	8	9
Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	Plan																				285	9.50	
			Actual	6	20	3	9	3	4	2	25	2	25	4	4	24	7	11	9	24	13	9	14	1	286
Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	Plan																					348	11.60
			Actual	14	20	19	30	3	4	30	24	20	20	20	24	11	11	4	24	10	9	8	1	348	11.60
Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	Plan																					50	1.67
			Actual			26	8				26	9	4	18					27	5					50
Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	Plan																					57	1.90
			Actual	28	13	26	7				13	30				23	3								57
Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	Plan																					30	1.00
			Actual			23	7					21	4												30
Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	Plan																					57	1.90
			Actual	6	20	19	3					21	6			25	4								57
Training and "Lesson Study" Coordinator	Hishigebayar Badamsambu	KRI International Corp. (Individual)	Plan																					210	7.00
			Actual	1	30	19	25	3	4	6	15	27	2326	4	10	4	13	21	3	31					210
			Plan																					1,037	34.57
			Actual																					1,038	34.60
Team Leader/ Training Planning 1	Tetsuya Ishii	KRI International Corp.	Plan																					6	0.20
			Actual																						6
Training Planning 2/ Monitoring & Evaluation	Sayaka Suzuki	KRI International Corp.	Plan																					21	0.70
			Actual																						21
Dissemination of the Teaching Methods (Science)	Masahiro Kamata	KRI International Corp. (Tokyo Gakugei University)	Plan																					6	0.30
			Actual																						6
Dissemination of the Teaching Methods (Mathematics)	Hiroshi Takahta	KRI International Corp. (Tokyo Gakugei University)	Plan																					6	0.30
			Actual																						6
Dissemination of the Teaching Methods (Science/Integrated Studies)	Akiteru Fukuchi	KRI International Corp. (Tokyo Gakugei University)	Plan																					6	0.30
			Actual																						6
Dissemination of the Teaching Methods (IT)	Shuu Matsuura	KRI International Corp. (Tokyo Gakugei University)	Plan																					6	0.30
			Actual																						6
			Plan																					51	2.10
			Actual																					51	2.10
			Plan																				1,088	36.67	
			Actual																				1,089	36.70	

Legend: : in Mongolia : in Japan : Covered by KRI International Corp.

Attachment 10

List of Equipment

List of Equipment

No	Item	Specification	Unit price (Tg)	No.	Total price (Tg)	Rate (1 Tg=)	Unit price (yen)	No.	Total price (yen)	Delivered Day	Place	Handover Day
1	Desktop		1,190,000	2	2,380,000	0.066			157,080	2010/4/21	ITPD	2013/8/30
2	Color printer	Laser, Canon LBP-5050N	759,900	1	759,900	0.065			49,394	2011/3/10	ITPD	2013/8/30
3	Black & White printer		200,000	1	200,000	0.066			13,200	2010/4/19	ITPD	2013/8/30
4	Copy machine with accessories	Copy machine	11,775,900	1	11,775,900	0.066			777,209	2010/4/19	ITPD	2013/8/30
		Scanner	1,171,625	1	1,171,625	0.066			77,327	2010/6/17	ITPD	2013/8/13
5	Vide camera with accessories	Digital video camera (Panasonic, HDC-HS60), battery, tripod					82,839	1	82,839	2010/8/17	ITPD	2013/8/30
		Digital video camera (SONY DCR-SR20E)	759,990	13	9,879,870	0.066			652,071	2011/2/2	School No.67, UB	2011/2/15
											School No.12, UB	2011/2/16
											Chandmani Erdene, Zavkhan	2011/2/19
											Bayantes, Zavkhan	2011/2/20
											Tosontsengel, Zavkhan	2011/2/20
											Shiluustei, Zavkhan	2011/2/20
											Songino, Zavkhan	2011/2/22
											Zavkhanmandal, Zavkhan	2011/2/24
											Gurvanbulag, Bulgan	2011/2/27
		Digital video camera (Panasonic NV-GS35)	* Provided by JICA								Ireedui Complex School, UB	2011/2/17
		Tripod	42,740	14	598,360	0.066			39,492	2011/2/2	Same as video camera	—
		SD card (Kingstone 32 GB)	95,500	13	1,241,500	0.065			80,698	2011/3/9	Same as video camera	—
6	Digital camera	Digital camera (Canon IXUS i5)		2							School No.67, UB	2011/2/15
			* Provided by JICA								Bulgan DEC	2011/3/5
7	Soft ware	Office 2007 small business	502,727	2	1,005,454	0.068			68,371	2010/5/17	ITPD	2013/8/30
		Windows 7 business	308,000	2	616,000	0.068			41,888	2010/5/17	ITPD	2013/8/30
8	Projector	HITACHI CPX1	1,599,990	4	6,399,960	0.066			422,397	2011/2/8	Songino khairkhan DEC	2011/2/17
											Zavkhan DEC	2011/2/19
											Bulgan DEC	2011/3/5
											ITPD	2013/8/30
											ITPD	2013/8/30
9	Webcamera & Headphones with Mic	Logitech C170 & WEILE WL-302MV	28,000	35	980,000	0.058			56,840	2011/11/29	Physics group	2012/3/13
											Chemistry group	2012/3/19
											Human&Environment group	2012/3/13
											Human&Nature group	2012/3/20
											Primary Math group	2012/3/20
											Secondary Math group	2012/3/20
											IT group	2012/3/20
											Integreated Studies group	2012/3/19
											Ulaanbaatar DEC	2012/4/2
											Songino khairkhan DEC	2012/3/12
											School No.67, UB	2012/3/12
											School No.12, UB	2012/3/12
											Ireedui Complex School, UB	2012/3/12
											Zavkhan DEC	2012/3/16
											Chandmani Erdene, Zavkhan	2012/3/13
											Bayantes, Zavkhan	2012/3/16
											Tosontsengel, Zavkhan	2012/3/11
											Shiluustei, Zavkhan	2012/3/12
											Songino, Zavkhan	2012/3/14
											Zavkhanmandal, Zavkhan	2012/3/15
											Bulgan DEC	2012/3/4
											School No.1, Bulgan	2012/3/5
											Gurvanbulag, Bulgan	2012/3/6
											Selenge, Bulgan	2012/3/2
											Khishig-undur, Bulgan	2012/3/5
											Khutag-undur, Bulgan	2012/3/5
											Selenge DEC	2012/3/1
											School No.1, Selenge	2012/3/1
											School No.4, Selenge	2012/3/1
											Khushaat sum, Selenge	2012/3/2
Dornod DEC	2012/2/27											
School No.5, Dornod	2012/2/29											
Khan-uur, Dornod	2012/2/27											
Matad sum, Dornod	2012/2/28											
10	Notebook computer	DELL INSPIRON N4050	1,153,900	1	1,153,900	0.056			64,618	2012/2/17	ITPD	2013/8/30
11	Anti virus	Kaspersky	45,000	1	45,000	0.056			2,520	2012/2/17	ITPD	2013/8/30
12	Soft ware	SPSS					188,720	1	188,720	2012/4/27	ITPD	2013/8/30