

Summary of Evaluation Results

I. Outline of the Project	
Country: Mongolia	Project Title: Teaching Methods Improvement Project towards Children's Development in Mongolia
Issue/Sector: Education (Teaching Methods Improvement)	Cooperation Scheme: Technical cooperation
Division in Charge: Basic Education Division I, Basic Education Group, Human Development Department, JICA	Total cost: about 290,000,000(YEN)
Period of Cooperation	<p>April 2006 – July 2009 (3 years 4 months)</p> <p>Partner Country's Implementing Organization: Ministry of Education, Culture and Science (MECS), Elementary Education Improvement Center, Mathematics Education Improvement Center, IT Education Improvement Center, and Science Education Improvement Center (the four Teaching Methods Improvement Centers), and Institute of Education</p>
<p>1. Background of the Project</p> <p>The Government of Mongolia has introduced the new education standards in September 2005 within the framework of education sector reform. The new education standards focused on shifting from a 10-year basic education system to a 12-year education system, lowering the school entry age from eight to six, and introducing new subjects such as integrated learning, natural science (integrated science), and others. In accordance with the new education standards, the teaching methods have been also expected to change from conventional teacher-centered to student-centered ones. However, at the school level, it has been hard to implement the new education standards because their contents are too academic for teachers to put them into practice in the classroom. To address these challenges, the Government of Mongolia requested the Government of Japan for a technical assistance project to improve teaching methods.</p> <p>2. Project Overview</p> <p>The Project has been implemented by MECS in cooperation with the Institute of Education, the four Teaching Methods Improvement Centers, the Department of Education Culture (DEC) of Ulaanbaatar (UB) City, Selenge Aimag and Dornod Aimag and nine model schools to shift from conventional rote learning methods to the new teaching methods that allow children to construct knowledge by themselves. More specifically, the Project has developed the teacher's guidebooks in eight subjects, namely elementary science, general science, chemistry, physics, arithmetic, mathematics, IT education, and integrated learning every year for the three-year project period. The first-year draft teacher's guidebooks were employed and examined in trial lessons in three model schools of UB City. The second- and the third-year draft teacher's guidebooks were employed and revised through trial lessons and lessons analyses in all nine model schools in UB City, Selenge Aimag and Dornod Aimag. The expected outcomes of the Project are shown below.</p>	

(1) Super Goal: Teaching methods which support children’s development “the Teaching Methods” are disseminated in the country.

(2)Overall Goal: Teaching methods which support children's development (“the Teaching Methods”) are disseminated in model Aimags and City.

(3)Project Purpose: The Teaching Methods are developed in accordance with the new educational standards introduced in primary and lower secondary education.

(4) Outputs

Output 1: The Teaching Methods are studied and developed in Mongolian context.

Output 2: Developed Teaching Methods are examined by Aimag/City supervisors and teachers, so that the teaching methods are applicable in local school conditions.

Output 3: The examined Teaching Methods are improved through trial lessons in model schools, so that the teaching methods are more applicable in local school conditions.

Output 4: Monitoring model is developed and practiced to see introduction and continuous practice of the teaching methods.

(5) Inputs

Japanese Side:

Expert: 12 people in the following six professional fields: 1) Project Manager/Education Planning; 2) Science Education; 3) Arithmetic/Mathematics; 4) Integrated Learning; 5) IT Education; and 6) Project Management and Monitoring.

Equipment: 5.46 million yen for such items as digital cameras, digital video cameras, and computers

Operational Cost: 7.54 million yen for training in Mongolia **Number of Trainees Received:** 18

Mongolian Side:

Main Counterparts: 19 people **Members of Working Groups:** 57 people

Operational Cost: 11.63 million yen, i.e., 176 million Tg, was allocated for the budget for developing and printing the Teacher’s Guidebooks, and operational costs for working groups. Due to the lack of the relevant information and data, it was not confirmed how much of the operational costs that the Mongolian side actually bore.

Land and Facilities: Office space provided

II. Evaluation Team			
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	Ms. Toshiko SHIMADA	Evaluation Analysis	Consultant, IC Net Limited

Eval. Period	March 2, 2009 – March 20, 2009	Type of Evaluation: Final Evaluation
<p>III. Results of Evaluation</p> <p>3-1 Confirmation of Results</p> <p>Overall, most of the four Outputs have been achieved or almost achieved, which will contribute to the attainment of the Project Purpose. The university teachers took the lead in developing the draft Teacher's Guidebooks for eight subjects (Output1). These draft Teacher's Guidebooks were revised by working groups, Model Aimag/City supervisors and model school teachers through various workshops and training (Output 2). In model schools, trial lessons were conducted and monitored (Outputs 3 and 4). After trial lessons, lesson analyses were undertaken in which project stakeholders discussed and analyzed the Teaching Methods and the draft Teacher's Guidebooks. The comments of the model schools were finally incorporated into the Guidebooks to be applicable in all schools. In this way, the achievement of the Outputs 1 to 4 has contributed to the achievement of the Project Purpose, i.e., the development of the Teacher's Guidebooks in accordance with the new education standards and the needs of teachers and schools.</p> <p>3-2 Summary of Evaluation Results</p> <p>(1) Relevance: Very high</p> <p>The Project aims to break away from the conventional rote learning methods and develop the new teaching methods that allow children to construct knowledge by themselves. Thus it matches the needs and priorities of MECS in accordance with the new education standards of 2005. Since the Project is expected to contribute to enhancement of the quality of education through the development of the new teaching methods, it is also consistent with the 2006-2015 Master Plan to Develop Education of Mongolia that aims to improve the access to educational service and the quality of education. Furthermore, the Project has addressed the needs of teachers in model Aimags/City by developing the Teacher's Guidebooks that describe the details of the Teaching Methods to be employed in lessons. According to the Japanese Government's Country Assistance Program for Mongolia of 2004 and JICA's Plan for Country-specific Implementation Program of 2006, human resource development that matches the market-oriented economic reform is one of the four priority areas for assistance. The programs above highlight the necessity of assistance for basic education. The Project, therefore, is consistent with the Japanese aid policies.</p> <p>In its approaches, the Project put an emphasis on the process of development of the Teacher's Guidebooks in which three different actors, namely university teachers, Aimag/City supervisors, and model schools worked collaboratively. This approach seems appropriate since it helped them acquire practical skills and knowledge and develop the Teaching Methods that would meet the needs of schools. Since the nine model schools were selected from urban and rural areas in two Aimags and UB City, and also from well-equipped complex schools and non-well-equipped ones in urban areas to develop the Teaching Methods, the Teacher's Guidebooks are expected to be applicable to all schools in Mongolia. Thus the Project as a whole has a high degree of relevance for technical cooperation.</p> <p>(2) Effectiveness: High</p> <p>All the four Outputs have been almost achieved, which is expected to contribute to the attainment of the Project</p>		

Purpose by the end of the Project period. The cooperation of the three actors who had learned from one another to pursue their common goals of the development of the Teacher's Guidebooks contributed to enhancing the effectiveness of the Project. Another contributing factor is that the Japanese experts with extensive experience in the field of education imparted the new skills and knowledge of the Teaching Methods to the counterparts. This has greatly raised the morale of the counterparts to be involved in the Project activities and make the maximum use of learning opportunities in the Project. Therefore, it is fair to say that the effectiveness of the Project is high.

(3) Efficiency: High

Although some of the inputs such as transportation costs to attend trial lessons were not provided by the Mongolian side as agreed, other inputs from both sides have been provided as planned. Thus the majority of activities has been carried out smoothly and has been all contributing to producing the Outputs. The training in Japan in particular, which is directly linked with the Project activities, contributed to smoothly producing the Output 1. This design enabled the participants to effectively and efficiently learn the practical skills and knowledge of the Teaching Methods employed in Japan from local schools, teachers and the Japanese experts. Thus the Project has a high degree of efficiency as a whole.

(4) Impact: Moderately high

The availability of the ADB loan from MECS allowed the Project to distribute one set of the Teacher's Guidebooks developed in the first and second years to all schools in the country, although this was not included in the original plan of the Project. The dissemination of the Teaching Methods to non-model schools has been gradually proceeding in three model Aimags/City through the existing in-service teacher training, open lessons, meetings, and other training. Among others, the following unexpected impacts have been observed: the dissemination of the Teaching Methods in pre-service teacher training courses in the teacher's colleges; the issue of several Orders of the Minister that are expected to provide teachers with incentives to improve their teaching skills and to more actively interact with children; and the active interaction between the children in model schools and their parents at home.

DECs are expected to play a key role in disseminating the Teaching Methods. As the Teaching Methods differ from conventional ones, the existing in-service training alone seems insufficient for further dissemination of the Teaching Methods to non-model schools. Moreover, if the budget for DECs is greatly reduced due to the financial crisis, it will be difficult for DECs to launch new programs related to the dissemination of the Teaching Methods. At the final evaluation, it is too early to say that the Overall Goal and the Super Goal will be achieved, though some positive impacts have been confirmed. Therefore, the degree of the impact of the Project is assessed as moderately high.

(5) Sustainability: Moderately high

No major changes are expected in the direction of the new education standards, but they were being evaluated and revised by MECS at the time of the final evaluation. During the Project period, the following Orders of the Minister that are expected to sustain the effects of the Project were issued by MECS: 1) a new system for performance evaluation of teachers in accordance with the new education standards; 2) a new framework for

in-service training of teachers; and 3) a new system for obtaining professional qualifications of teachers. Thus, the sustainability in the policy aspect is likely to be high. In the technical aspect, most of the Project stakeholders have acquired the skills and knowledge of the Teaching Methods and are likely to apply them at work. The Manual on Teacher's Guidebook Development to be developed and published by the end of the Project will help sustain the know-how for developing Teacher's Guidebooks. Therefore, the knowledge and skills transferred by the Project are highly likely to be sustained after the completion of the Project. Under the Project, the working groups have played an important role in developing the Teacher's Guidebooks. The Project stakeholders so far have been highly motivated to sustain the effects of the Project. Thus it is possible that the Project stakeholders will be involved in the development, dissemination and practice of the Teaching Methods in their own organizations. Accordingly, the sustainability in the organizational aspect is relatively high.

For further dissemination of the Teaching Methods developed by the Project, individual efforts of a few motivated pilot teachers and Aimag/City supervisors alone are not enough. An effective mechanism should be developed and strengthened to enable top officials of DEC's, Aimag/City supervisors who were not involved in the Project, and principals and vice principals of non-model schools to understand the importance and necessity of the Teaching Methods and assist teachers in employing these methods in lessons. Since such a mechanism has yet to be established at the time of the final evaluation, the sustainability in the institutional aspect is moderately low. As the budgets of the Four Centers, the DEC's, and the model schools are not secured, these actors are unlikely to accelerate the dissemination of the effects of the Project without any external assistance. In addition, if the financial crisis adversely affects MECS, it may be difficult to allocate an additional budget for promotion of the Teaching Methods. More internal efforts and closer cooperation with development partners are necessary to sustain and extend the effects and impacts of the Project. Thus, at the time of the final evaluation, the sustainability in the financial aspect is medium. Given the assessments above, it is fair to say that the sustainability of the Project is moderately high.

In addition, after this final evaluation period, JICA has decided to conduct the social sector support program in collaboration with ADB in May 2009. The objective of the Program is to protect the poor during the financial crisis and to improve the targeting of social assistance and living conditions of the poor by ensuring and strengthening basic social services and protecting essential social sector expenditures, thereby contributing to improvement of public expenditure management, and enhancement of social development in Mongolia.

3-3 Factors promoting sustainability and impact

(1) Factors concerning planning

The institutional arrangement of the Project was well designed as university teachers, model Aimag/City supervisors, and model schools had been directly involved in developing the Teacher's Guidebooks and the new Teaching Methods through a variety of training, trial lessons, monitoring of trial lessons, and lesson analyses. This approach made it possible to develop the Teacher's Guidebooks that differ from the conventional and academic ones developed by university teachers alone, but are expected to be more applicable to schools and teachers. The approach is also the most positive contributing factor that facilitated the achievement of the Outputs and the Project Purpose and enhanced the effectiveness of the Project.

The training in Japan also helped the counterparts acquire the practical expertise on the Teaching Methods

employed in the classroom by teachers in Japan. The practical knowledge and skills that Mongolian counterparts have learned in Japan were also shared with other counterparts who did not participate in this training, which also deepened the former group's understanding of the Teaching Methods. Thus the training in Japan was very effective in enabling counterparts to develop the Teaching Methods that suit the actual conditions of Mongolia and in creating a ripple effect such as introducing the new Teaching Methods in the pre-service teacher training courses of the teachers colleges.

The development cycle of the Teaching methods in the Project including trial lessons, monitoring of trial lessons, and lesson analyses was undertaken for three years in UB City and for two years in Selenge Aimag and Dornod Aimag. This allowed most of the counterparts to acquire the practical knowledge and skills step by step, which can contribute to the attainment of Outputs, several positive impacts, and the sustainability of the Project in the technical aspect.

(2) Factors concerning the implementation process

Prior to the Project, some of the core counterparts had, to some extent, acquired the knowledge about the teaching methods being employed in Japan through the technical transfer from one JICA expert who had been dispatched to MECS or from the other technical training in Japan conducted by the "Strengthening the Planning Capacity for In-Service Teacher Training Project." The assignment of these counterparts with a high sense of ownership and responsibility to the Project has led to smooth implementation of the Project. In addition, the transfer of knowledge and skills from the Japanese experts to the counterparts has been successfully undertaken. The Japanese experts provided their Mongolian counterparts with appropriate knowledge and skills every year, i.e., lesson study (*jugyou kenkyu*), analyses of teaching materials (*kyozai kenkyu*), and child development to stimulate the counterparts' motivation for learning.

3-4 Factors inhibiting sustainability and impact

(1) Factors concerning planning

The indicators were not well identified in the PDM to measure the degree of the achievement of the Project Purpose and the Output 1. Although the content of the Project Purpose and the Output 1 differed from each other, the same indicator was set to measure the degree of the achievement of these two items. Thus, the indicators need to be adjusted at the time of the final evaluation according to what has been really happening on site. Occasionally the logframe was not clearly formulated and well documented, although the PDM was revised by the Project based on the recommendations of the mid-term evaluation. It seems hard for even the project stakeholders to explain the difference between the summaries of the Project Purpose and the Outputs in the PDM. The PDM thus needs to be theoretically formulated, and well documented and shared among the Project stakeholders in the planning stage of the Project.

(2) Factors concerning the implementation process

Indicators in the PDM can be set clearly or changed based on results of baseline surveys or discussions of project stakeholders after the start of a project. In this Project, it was found at the time of the final evaluation that several indicators were not objectively measured and had no target values. Thus the final evaluation study team had to

adjust indicators and newly set the criteria of judgment according to what has been actually happening. Also, the alternative data and information such as the results of the Questionnaire Survey conducted by the local consultants of JICA prior to the final evaluation were used to measure the achievement of the Outputs and the Project Purpose since some of the indicators in the PDM were not available. In hindsight, the results of the baseline data should have been well utilized to set the objective and measurable indicators in the PDM.

3-5 Conclusion

Most project activities have been smoothly carried out through the good cooperation between the counterparts and the Japanese experts. The Project has properly addressed the priorities and needs of MECS, schools, and teachers. It is also consistent with the Mongolian education policies and the Japanese aid policies. Thus, the relevance of the Project is very high. Since most of the Outputs and the Project Purpose have been almost achieved, the Project as a whole has a high degree of effectiveness. The working groups for eight subjects have committed themselves to developing the new Teaching Methods and the Teacher's Guidebooks. The training in Japan was particularly effective in imparting practical knowledge and skills of the teaching methods to the counterparts, which has contributed to smooth implementation of the Project. As the relatively small size of project inputs have been producing effects as expected, it is fair to say that the efficiency of the Project is high. The ripple effects of the Project have been confirmed to some extent. Overall, the sustainability of the Project is moderately high at the time of the final evaluation. If the institutional and financial aspects are strengthened by establishing an effective mechanism and securing a sufficient budget for the dissemination of the new Teaching Methods, the prospects for sustainability will improve.

3-6 Recommendations

3-6-1 Collaboration of university teachers with classroom teachers

The approach adopted by the Project where university teachers and classroom teachers on the ground work together, seemed to be highly effective because the university teachers were able to understand the actual needs of classroom teachers and children on the ground. The knowledge they have acquired in the process has been improving the quality of pre-service in the universities.

In addition, as some of the university teachers are involved in the curriculum reform and textbook writing, the knowledge about the Teaching Methods that they have acquired through the project are also expected to be reflected in the curricula and textbooks in Mongolia in the long run.

3-6-2 Inter-linkage of the project activities in Mongolia and Japan

Since the training in Japan was planned and conducted by the Japanese experts who were involved in the Project activities in Mongolia, the training was well coordinated with the Project activities in Mongolia. This contributed to enhancing the effectiveness of the Project.

3-6-3 Necessity of making use of the Base-line and End-line surveys for project monitoring

- (1) The data collected for the Base-line survey and the End-line survey should have been better utilized to monitor the progress of the Project. Although the Project conducted a comprehensive Base-line survey in the three Aimags/City, it seems that those data were not well utilized to monitor the progress and to evaluate the effectiveness of the Project.

- (2) Indicators of the PDM should have target values. If the decision was made not to set the target values for the indicators, the decisions and reasons should have been recorded in the official documents such as JCC minutes.

END

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第1章 終了時評価調査団の派遣

1-1 調査団派遣の経緯と目的

モンゴル国（以下、モンゴル）「子どもの発達を支援する指導法改善プロジェクト」は2006年4月から実施され、2009年7月末日をもって終了する。

今回、終了を控えたプロジェクトの目標達成度を評価することを主要な目的として、終了時評価調査団が派遣された。

調査のポイントは次のとおり。

- (1) プロジェクトの実績の検証と評価5項目による評価
- (2) 残された課題の整理
- (3) 教訓と提言の抽出

上記結果を踏まえ、モンゴル側との協議結果を合同評価報告書に取りまとめ、署名・交換する。

1-2 調査団の構成

【日本側】

担当分野	氏名	所属
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評価分析	島田 俊子	アイ・シー・ネット株式会社

【モンゴル側】

担当分野	氏名	所属
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1-3 調査日程

2009年3月2日（月）～3月20日（金）（詳細は付属資料1のとおり）

1-4 主要面談者

【モンゴル側】

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平原 勝	三等書記官

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小貫 和俊	モンゴル事務所次長

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鈴木 サヤカ	専門家（プロジェクト管理・モニタリング）

1-5 終了時評価調査の方法

1-5-1 評価調査方法概要

終了時評価は、プロジェクトの実施期間終了の3~6カ月前の時点において、プロジェクトが目指していた目標が達成されたかを総合的に検証するもので、プロジェクト実績と実施プロセスを把握し、評価5項目の観点から評価を行う。プロジェクトの計画は以下に挙げる資料に基づいて確認した。評価5項目については、1-5-2、調査方法詳細については1-5-3に示す。

- プロジェクト開始前（2006年5月10日）にJICAおよびモンゴル政府の間で合意されたプロジェクト討議議事録（Record of Discussion: R/D）およびそれに添付されたプロジェクト・デザイン・マトリックス（Project Design Matrix: PDM）
- プロジェクト中間時点（2008年7月9日）にJICAおよびモンゴル政府の間で合意されたプロ

プロジェクト変更に関する R/D およびそれに添付された改訂 PDM

- プロジェクトの活動計画 (Plan of Operation: PO)

1-5-2 評価5項目

評価5項目、すなわち妥当性、有効性、効率性、インパクト、自立発展性の定義は以下のとおりである。今回の調査では、評価グリッドに沿って、妥当性、有効性、効率性を終了時評価時点までの実績と現状に基づいて検証するとともに、インパクトならびに自立発展性について、実績、活動状況から今後の見込みを分析した。

妥当性 (Relevance)	プロジェクト目標および上位目標とプロジェクト関連政策との整合性、受益者ニーズとの合致度、プロジェクト計画の論理的整合性を検証する。
有効性 (Effectiveness)	プロジェクト目標の達成の見込みと、それに対する成果の貢献度を分析する。
効率性 (Efficiency)	投入が成果にどのようにどれだけ転換されたか、投入された資源の質、量、手段、方法、時期が適切であったか、の観点からプロジェクトの実施過程における効率性を検証する。
インパクト (Impact)	上位目標の達成の見込みを予測するとともに、プロジェクト実施により上位目標以外の正負のインパクトが生じているかについて検証する。
自立発展性 (Sustainability)	プロジェクト終了後もプロジェクト実施による便益が持続されるか否かの見通しを政策・制度的、財政的、技術的観点から検証する。

1-5-3 調査方法詳細

PDM に基づき、プロジェクトの実績および実施プロセスを確認し、前項に述べた評価5項目の観点から終了時評価を実施するための枠組み・計画として、評価グリッドを作成した。評価グリッドでは、終了時評価の目的に沿って、評価設問、判断基準・方法、情報・データ源、データ収集方法を取りまとめた（評価グリッドは付属資料2 ミニッツ ANNEX 3 を参照のこと）。

また調査実施に関しては、以下の調査方法に基づき行われた。

(1) 質問紙調査結果の活用

プロジェクトでは、試行授業のサイクルに合わせてエンドライン調査を計画しているため、終了時評価調査時点においてエンドライン調査結果を活用することができなかった。よって、終了時評価調査に先立ち JICA モンゴル事務所においてローカルコンサルタントを雇用し、モデル校や県/市教育局の指導主事などプロジェクト関係者や非モデル校を対象に質問紙調査を実施した。ローカルコンサルタントは、報告書“Pre-Study Report for Final Evaluation of JICA” (MonEduc Consulting LLC, 2009) を 2009 年 2 月に提出しており、終了時評価調査ではこの質問紙調査結果を可能な限り活用した。

(2) PDM の検証

終了時評価を行うにあたり、2005 年 12 月の第 2 次事前評価調査時に作成された PDM バージョン 2.1 から中間評価調査の提言を受けて 2008 年 7 月に変更された PDM バージョン 3 への変更経緯を、次のとおり確認した。

PDM バージョンと作成日		変更点	理由
2.1	2005年12月14日 (第2次事前評価調査ミニッツ)		
3	2008年7月9日 (変更 R/D)	<ul style="list-style-type: none"> 成果3「指導法¹が施行される」を、「モデル校において、学校現場に応じた指導法が試行され、その結果、指導法が現場の学校でより活用可能となる」と修正。 活動の変更点を修正・追記。 指標は上位目標、プロジェクト目標、成果1~4について、解釈をわかりやすくするため文言の変更、測定可能な指標の追加など修正・追記。 	中間評価調査(2008年2月)において、1)活動と成果の因果関係、論理の整理と、2)成果や目標の達成をより正確に測ることができる指標に変更が必要であると提言し、修正案を提示。

2008年2月から3月にかけて実施した、最新のPDMバージョン3への改定に際しては、上位目標、プロジェクト目標、成果について、解釈をわかりやすくするための文言の変更や、測定可能な指標の追記・修正を行った。その一方で、必ずしも全ての指標において客観的な数値目標が含まれているわけではないため、以下の入手可能なデータによりプロジェクト目標と成果の実績確認を行うことにした。ここで採用する定量データおよび計画値と実績値が確認できるものは、5項目評価の有効性と効率性の一部に関する判断基準・方法としても活用することにした。

PDM バージョン3	実績確認に用いる各指標のデータ
<p>【プロジェクト目標】 「指導法」が、基礎教育の新スタンダードに応じて開発される。</p> <p>指標1: 開発された指導書</p> <p>指標2: 指導法が実践されている授業数(プロジェクトによる試行授業を除く)</p> <p>指標3: 授業に対する子どもの態度の変化</p>	<p>指標1: 開発された指導書</p> <ul style="list-style-type: none"> <定量データ> 8科目24単元の開発された指導書 <定性データ> プロジェクト関係者以外(非モデル校教員や指導主事ら)による指導書の質に対する評価の回答—a.新スタンダードと合致するか、b.学校現場の現状と合致するか、c.教員の能力に見合うものか、d.指導法を実践できる内容か(ローカルコンサルタントによる質問紙調査²) <p>指標2: 試行授業以外での指導法の実践状況</p> <ul style="list-style-type: none"> <定量データ> 試行授業以外でも、指導法を実践していると回答したモデル校試行教員の割合(質問紙調査) <定性データ> 実践している内容 <p>指標3: 授業に対する子どもの態度の変化</p> <ul style="list-style-type: none"> <定量データ> 授業に対する子どもの態度の変化を示す回答が多い項目(質問紙調査) <定性データ> 授業に対する子どもの態度の変化を示す事例

¹ 「子どもの発達を支援する指導法」を以下「指導法」と記載する。

² 1-5-3(1)の質問紙調査のことを指す。

PDM バージョン 3	実績確認に用いる各指標のデータ
<p>【成果 1】 「指導法」がモンゴルの状況に合わせて研究され、開発される。</p> <p>指標 1: 開発された指導書 指標 2: 指導法作成マニュアル</p>	<p>指標 1: 開発された指導書</p> <ul style="list-style-type: none"> ・ <定量データ> 8 科目 24 単元の開発された指導書案 ・ <定性データ> プロジェクト関係者（日本人専門家、カウンターパート）による指導書の質に対する評価の回答—a. 新スタンダードと合致するか、b. 学校現場の現状と合致するか、c. 教員の能力に見合うものか、d. 指導法を实践できる内容か（質問紙調査） ・ 指導書の開発プロセスで、モンゴルの状況に合わせて研究・開発された事例 <p>指標 2: 指導法作成マニュアル <PDM の指標どおり></p>
<p>【成果 2】 開発された「指導法」が県指導主事、教員などによって、学校現場の現状に合うように改善される。</p> <p>指標 1: 大学、県教育局、モデル校の参加を得て開催された勉強会と研修会の開催数と参加者数、参加者の内訳 指標 2: 70%以上の県教育局の指導主事が指導書開発プロセスに満足する。</p>	<p>指標 1: 大学、県教育局、モデル校の参加を得て開催された勉強会と研修会の開催数と参加者数、参加者の内訳</p> <ul style="list-style-type: none"> ・ <定量データ> 指導書作成勉強会と指導法研修会が年に 1 回、計画どおり大学、県教育局、モデル校の参加を得て開催される。 ・ <定量データ> 参加者の内訳と参加者数—参加者数に関して年々増加が見られ、大学、教育局（指導主事）、学校（校長、学習マネージャー³、教員）から偏りがなく参加している。 <p>指標 2: 70%以上の県教育局の指導主事が指導書開発プロセスに満足する。 <PDM の指標どおり></p> <ul style="list-style-type: none"> ・ <定量データ> 指導書開発プロセスに満足と回答した指導主事の割合（質問紙調査） <p>指標 1 と指標 2:</p> <ul style="list-style-type: none"> ・ <定性データ> 指導書開発プロセスで、学校現場の現状に合うよう改善された具体例
<p>【成果 3】 モデル校において、学校現場に応じた「指導法」が試行され、その結果、指導法が現場の学校でより活用可能となる。</p> <p>指標 1: 試行授業数 指標 2: 試行授業期間中の指導法改善 指標 3: 85%以上の試行教員が指導書開発プロセスに満足する。</p>	<p>指標 1: 試行授業数 試行授業が計画どおりの回数、開催される<プロジェクト側に計画値と実績値を確認></p> <p>指標 2: 試行授業期間中の指導法改善</p> <ul style="list-style-type: none"> ・ <定量データ> 指導法の実践を通し、教員の指導法が改善したことを示す回答が多い項目（質問紙調査） ・ <定性データ> 試行授業期間中の指導法改善の事例 <p>指標 3: 85%以上の試行教員が指導書開発プロセスに満足する。 <PDM の指標どおり></p> <ul style="list-style-type: none"> ・ <定量データ> 指導書開発プロセスに満足と回答した試行教員の割合（質問紙調査）
<p>【成果 4】 「指導法」の導入および継続的実施のためのモニタ</p>	<p>指標 1: モニタリングした試行授業数 試行授業が計画どおりの回数、モニタリングされる<プロジェクト側に計画値と実績値を確認></p>

³ モンゴルでは、教頭のことを学習マネージャーと呼ぶ。

PDM バージョン 3	実績確認に用いる各指標のデータ
リング手法が開発・実施される。 指標 1 : モニタリングした試行授業数 指標 2 : モニタリングマニュアル	指標 2 : モニタリングマニュアル

(3) 評価デザインの作成

PDM に記載されている内容（目標値、指標、指標入手手段）と上記の評価に使える指標を活用して、評価デザインの検討を行い、評価グリッドを作成した。

(4) 関連資料のレビュー

本プロジェクトの「実施協議報告書（付・第1次～第2次事前評価調査団報告書）」や、R/D、中間評価調査報告書案、プロジェクトの業務進捗報告書や年次完了報告書、指導書やモニタリングマニュアル、その他の成果品、ローカルコンサルタントによる質問紙調査結果報告書をレビューして、プロジェクトの実績や実施プロセス、プロジェクトを取り巻く外部環境を確認した。

(5) プロジェクト関係者への質問票配付

現地調査前に、技術移転の進捗状況や成果とプロジェクト目標の達成状況、上位目標の達成見込み状況、投入の量や質とタイミング、実施プロセスなどに関する質問票を作成し、日本人専門家7人とモンゴル側カウンターパート、8つのワーキンググループの主要メンバーに配付した⁴。現地調査開始時に、日本人専門家7人、ワーキンググループの主要メンバー26人から質問票を回収して分析した。

(6) プロジェクト関係者へのインタビューとモデル校・非モデル校の視察

活動実績の確認と上記(5)の質問票の回答をもとに、技術移転の効果や実施プロセス、プロジェクトによって引き起こされた変化などに関する補足情報を収集するため、プロジェクト関係者に対する個別インタビューを行った。対象は日本人専門家7名と8つのワーキンググループ、モニタリングワーキンググループ、プロジェクトコーディネーター2名、モデル県/市の各教育局長と指導主事とした。このほか、モンゴル国立大学の理学部や教育大学初等教育学部、統計学部、理学部の各部長にもインタビューを行った（主要面談者は1-4を参照のこと）。

⁴ モデル県/市教育局の指導主事に対しては、JICA と教育省が 2009 年 1 月に共催した「教員再訓練計画プロジェクト」のフォローアップ研修で、同様の質問票を配付したため、その結果とインタビューで情報を収集・分析することにした。

第2章 プロジェクトの概要

2-1 背景

モンゴルでは、1990年以降民主化による価値観の転換・市場経済化に伴う経済の混乱が生じたことに加え、1991年ソ連邦の崩壊に伴う同国からの援助停止により政府財政が逼迫した。これらの要因が複合して教育分野においても教育行政能力の不足、教員の質の低下、教育インフラの未整備、高等・専門教育の開発の遅れ、地方における就学率の低下などさまざまな問題が生じており、特に教育の基礎となる教育行政能力の向上、地方教育行政に携わる人材の育成が求められている。

教育セクターの改革により、2005年9月から新教育スタンダード（国レベルのカリキュラム。日本の学習指導要領にあたる）が導入され、基礎教育課程は10年制から12年制に移行した。これに伴い、入学年齢が8歳から6歳へと引き下げられるとともに、総合学習、自然学（総合理科）など、新たな教科が導入されることとなった。また、教員は従来の暗記中心の指導法から子どもの発想や思考を促すような「子どもの発達を支援する指導法」（以下「指導法」）を行うことが求められている。

しかし現職教員は、従来の暗記中心の教授法で養成されているため、子どもの発達を支援する指導法の具体的な方法がわからず、授業に活かせないでいる。また、新スタンダードは大学教授が中心に策定したため、内容がアカデミックで現場の教員が理解しづらいという批判がなされている。

このような背景から、指導法改善の協力についてモンゴル政府より要請が出され、「子どもの発達を支援する指導法改善プロジェクト」が2006年4月から3年4カ月の予定で実施されている。

プロジェクトは、教育省、教育研究所、モンゴル教育大学の初等教育指導法開発センター、数学教育指導法開発センター、IT教育指導法開発センターと、モンゴル国立大学の理科教育指導法開発センターをカウンターパート機関としている。プロジェクトでは、4つのセンターを中心にワーキンググループを設置し、算数、数学、初等理科、総合理科、化学、物理、IT教育、総合学習の8科目の指導法・指導書の開発を行い、モデル校（ウランバートル市、ドルノド県、セレンゲ県からそれぞれ3校の計9校）において試行・改善を行うことで、従来の暗記中心型指導法から、生徒が自ら学ぶ力を引き出す指導法に改善することを目指している。

なお、1、2年次に作成した指導書は、教育省がアジア開発銀行（Asian Development Bank: ADB）の資金を用いて印刷し、全国の学校へ配布された。3年次に作成する指導書についても同様にADBの資金により全国に配布予定である。

2-2 基本計画

プロジェクトの基本計画は以下のとおり。詳細な活動計画などについては、付属資料2 ミニッツ ANNEX2 PDM を参照のこと。

協力期間	2006年4月～2009年7月（3年4カ月）
上位目標	「指導法」がモデル県において普及する。
プロジェクト目標	「指導法」が、基礎教育の新スタンダードに応じて開発される。
期待される成果 （アウトプット）	成果1：「指導法」がモンゴルの状況に合わせて研究され、開発される。 成果2：開発された「指導法」が県指導主事、教員などによって学校現場の現状に合うように改善される。 成果3：モデル校において、学校現場に応じた「指導法」が試行され、その結果、「指導法」が現場の学校でより活用可能となる。

	成果 4 : 「指導法」の導入および継続的実施のためのモニタリングが開発・実施される。
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【日本側投入】

- (1) 協力額概算：約 2 億 500 万円
- (2) 投入：日本人専門家、研修員受け入れ、供与機材、一般業務費

【相手国協力機関】

指導法開発センター（初等教育、理科教育、数学教育、IT 教育の 4 センター）、教育文化科学省、教育研究所、県・市教育局（ウランバートル市、ドルノド県、セレンゲ県）

【裨益対象者および規模】

直接裨益対象者：教育省、教育研究所および県教育局職員、各指導法開発センター職員
 協力対象校教員：約 280 人、1 年生から 9 年生の児童 約 8000 人
 間接裨益対象者：全国の教員 約 2 万 1,000 人、1 年生から 9 年生の児童 約 55 万 7,000 人

2-3 実施体制

2-3-1 プロジェクト実施体制

プロジェクトは教育省初等教育局、教育研究所、モンゴル国立大学およびモンゴル教育大学の 4 つの指導法開発センター、モデル県・市教育局、各モデル校の協力体制の下、実施されている。4 つの指導法開発センターには大学教員、県・市教育局、学校の教員とともにワーキンググループを設置し、そのワーキンググループごとに指導書の研究・開発を行っている。図 1 にそのワーキンググループ体制を示す。

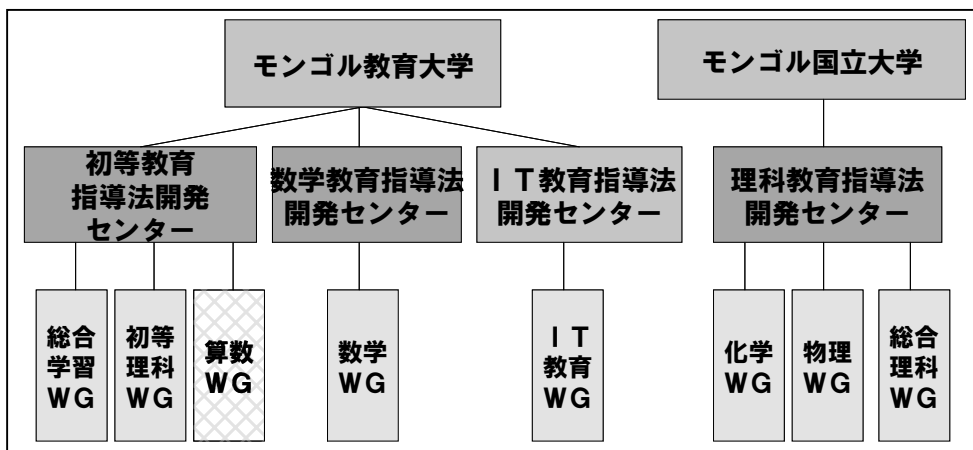


図 1 : ワーキンググループ⁵体制図

プロジェクトの活動サイクルは、図 2 に示すとおりである。まず、第一の活動として、ワーキンググループによる指導書勉強会、指導書案の作成を行う。次に、その指導書案をもとにモデル校教師を対象にした試行授業前研修およびモデル校での試行授業を実施する。それら試行授業のモニタリングおよびその後の検討会を通し、指導書の内容が現場の状況に応じているか、どのような改善を加える

⁵ ワーキンググループのメンバーは、大学教員、モデル校教員などワーキンググループによって異なる。

必要があるかという検討を行う。それらのフィードバックを受け、再度ワーキンググループによって指導書の内容についての検討を行い、最終的な指導書を完成する。完成の際には、外部有識者による査読を行うことになっている。試行授業については、1年次の試行授業はウランバートルのモデル校のみで行い、2年次以降はセレンゲ県、ドルノド県でも行った。

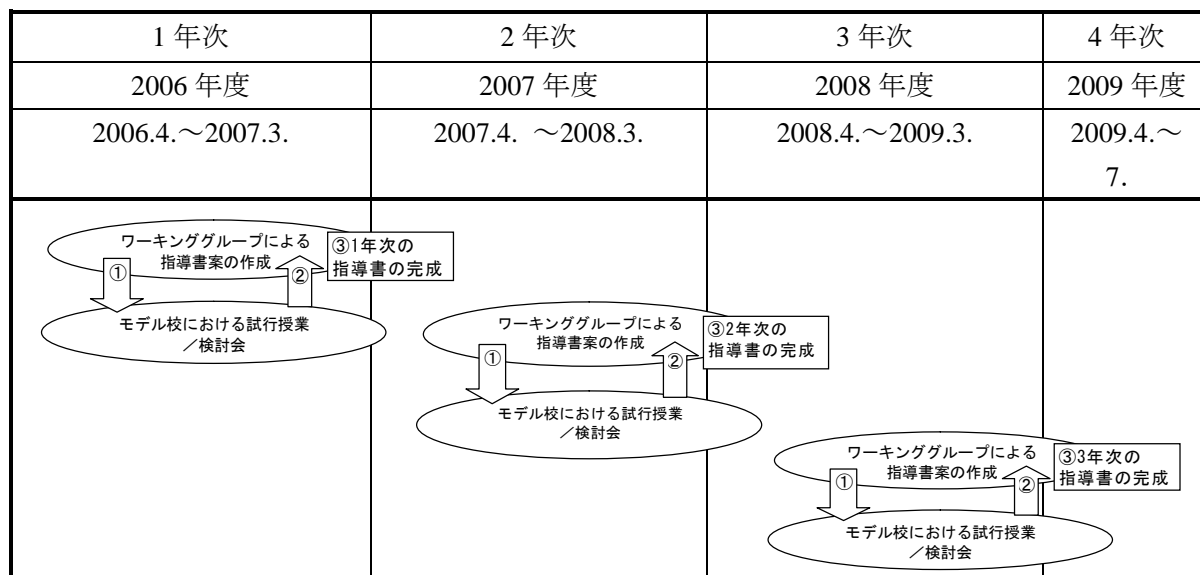


図2：プロジェクトのサイクル

2-3-2 対象地域

プロジェクトでは、以下の2県1市をモデル県・市とし、さらに各県から3校をモデル校として選定し、活動を実施している。モデル県・市については、冒頭の地図を参照のこと。

モデル県／市	モデル校
ウランバートル市	45学校
	97学校
	セトゲムジ校
ドルノド県	1学校
	4学校
	ホシャットソム校
セレンゲ県	5学校
	ハンウール統合校
	マタドソム校

第3章 計画達成度

3-1 実績の確認

プロジェクト開始以降、2009年3月の終了時評価調査時までの日本側とモンゴル側の投入実績や各成果の達成状況、プロジェクト目標の達成状況と達成見込みについて検証した。またプロジェクト終了3～5年後に達成が見込まれる上位目標と、長期的な目標であるスーパーゴールの終了時評価時点での達成見込みについても確認した。以下、実績確認の結果を述べる。

3-1-1 日本側の投入実績

(1) 専門家の派遣

これまで専門家は6分野12人（6分野は①総括/教育計画、②理科教育、③算数・数学教育、④総合学習、⑤IT教育、⑥プロジェクト管理/モニタリング）が派遣された。専門家の人月数は、2009年3月時点で51.76M/Mである（付属資料2 ミニッツ ANNEX4-1を参照）。

(2) 研修員の受け入れ

本邦研修員は、日本人専門家の所属機関である東京学芸大学が受け入れ機関となり、1年次と2年次に実施し、のべ18人のカウンターパート（指導法開発センターの大学教員）が参加した（付属資料2 ミニッツ ANNEX 4-2 参照）。

(3) 機材の供与

供与した機材は指導書開発、試行授業や授業観察などの活動に必要なデジタルカメラやデジタルビデオ、コンピューター、ソフトウェア、コピー機、プリンター、プロジェクターのほか、参考資料などで、これまで546万2,000円が投入されている（付属資料2 ミニッツ ANNEX 4-3を参照）。

(4) 現地活動経費

現地活動経費は主に現地研修開催費で、これまで754万5,000円が投入されている。付属資料2 ミニッツ ANNEX 4-3を参照。

3-1-2 モンゴル側の投入実績

(1) カウンターパートの配置

プロジェクトの主要なカウンターパートは19人である（付属資料2 ミニッツ ANNEX4-4）。プロジェクト開始後に結成された教科ごとのワーキンググループは8つあり、メンバーは主に4つの指導法開発センターの大学教員やモデル校の学習マネージャーや教員らで構成されている（2-3-1 図1参照）。これら教科別ワーキンググループのほか、各ワーキンググループのメンバーやモデル校校長、学習マネージャーら12人で構成されるモニタリングワーキンググループがある。ワーキンググループのメンバーであるプロジェクト関係者は57人である。ワーキンググループとは別に、プロジェクト活動に従事しているモデル県/市教育局の指導主事は12人である（付属資料2 ミニッツ ANNEX 4-5を参照）。

(2) 現地活動経費

モンゴル側が負担する現地活動経費は、2007年7月20日に出された大臣令第274号で、1)指導書の作成と印刷にかかる経費として約1092万円⁶（1億6,538万トゥグリク⁷）と、2)ワーキンググループのモデル校での活動手当と参加者の食事にかかる経費を県/市教育局の教育研修費から約72万円（1,084万4,800トゥグリク）が承認されている。しかし、実際の投入額については、終了時評価時点において必要データが入手できず明らかではない。

(3) 施設提供

モンゴル側は合意されたR/Dに基づき、日本人専門家のプロジェクト活動に必要な執務室として教育省の一室を提供している。

3-2 達成状況

3-2-1 成果の達成状況

4つの成果（アウトプット）の達成状況は次のとおりである。

【成果1】 「指導法」がモンゴルの状況に合わせて研究され、開発される。	
指標	達成度（あるいは協力期間終了時の見込み）
1.開発された指導書 1-1. 8科目24単元指導書案	8科目（算数、数学、初等理科、総合理科、化学、物理、総合学習、IT教育）24単元の指導書案が、各ワーキンググループにより1～3年次に計画どおりすべて作成された。
1-2. プロジェクト関係者による指導書の質に対する評価の回答（質問紙調査結果）	質問紙調査に回答したモデル校教員や県/市の指導主事の90%以上が、開発された指導書が新教育スタンダードに即し学校現場に応じたものであり、わかりやすい内容であると評価している。回答者の53%が、研修などの指導がなくとも指導書を読んでプロジェクトで開発した指導法を実践できると回答した（MonEduc Consulting LLC, 2009）。他方、指導書をより深く理解するためには研修が必要不可欠という意見も、プロジェクト関係者から指摘されている。
1-3. 指導書開発プロセスで、モンゴルの状況に合わせて研究・開発された事例	各ワーキンググループに対するインタビューでは、日本の事例を参考にモンゴルの状況に合わせて指導書開発に取り組んだ事例が確認された。例えば、化学の指導書では薬局で入手可能な石灰を用いる実験事例を多く取り上げ、村落部の学校で実施できるよう配慮したり、総合学習は、日本の茶道や折り紙を用いた授業の代わりに、畜産をテーマに乳製品の加工に置き換えたりなどとしている。
2.指導書作成マニュアル	終了時評価調査時点においては、モンゴル側のプロジェクトコーディネーターと各ワーキンググループのメンバーが指導書作成マニュアルのとりまとめ作業を行っている最中であり、プロジェクト終了までに完成が見込まれる。教育省は、指導書作成マニュアルを全国の各学校に配布することを希望しており、ADB ローンを用いて600部の印刷費を負担できるとしている。これを受けて、プロジェクト側で最終的な印刷部数を検討中である。

6 JICA 平成20年度3月「業務実施契約、業務委託契約における外貨換算レート」MNT1=¥0.066

7 予算の財源にはADBローンも含まれる。

【成果2】開発された「指導法」が県指導主事、教員などによって、学校現場の現状に合うように改善される。	
指標	達成度（あるいは協力期間終了時の見込み）
1. 大学、県教育局、モデル校の参加を得て開催された研修会 1-1. 指導書作成勉強会と指導法研修会が年に1回、計画どおり大学、県/市教育局、モデル校の参加を得て開催される。	プロジェクトでは毎年指導書作成勉強会（研修会）や指導法研修会、試行授業前研修会を開催し、1年次と2年次の試行授業後には試行授業レビュー会合を行っている。終了時評価調査時点までに、合計15回の研修会を実施した（付属資料2 ミニッツ ANNEX 6を参照）。
1-2. 参加者数に関して年々増加が見られ、大学、教育局指導主事、モデル校から偏りなく参加している。	各研修会には、大学教員、指導主事、モデル校関係者が偏りなく参加しており、日本人専門家による指導法に関する発表や関係者間の協議を通じて、指導法改善に関する知見やスキルを習得した。関係者に対するインタビューによると、研修会ではモデル校や指導主事が学校現場の現状や指導書案の使いやすさや問題点を伝え、大学教員からは指導法に関する新たなアイデアや事例、助言が伝えられ、互いに刺激し合う良い協力関係が生まれた（付属資料2 ミニッツ ANNEX 6を参照）。
2. 70%以上の県教育局の指導主事が指導書開発プロセスに満足する。	質問紙調査によると、目標値の70%以上には及ばないものの、プロジェクトの活動に従事した指導主事12人のうち8人（66.7%）が、指導書開発プロセスに満足していると回答した（MonEduc Consulting LLC, 2009）。調査団が実施したインタビューでは、特に3年次の指導書開発で自分たちの意見やコメントが多く反映され満足しているという回答が指導主事から多く寄せられ、中間評価時で報告されたような開発プロセスに否定的なコメントはなかった。

【成果3】モデル校において、学校現場に応じた「指導法」が試行され、その結果、「指導法」が現場の学校でより活用可能となる。	
指標	達成度（あるいは協力期間終了時の見込み）
1. 試行授業時間数 1-1. 試行授業の計画値と実績値の比較	当初計画に対する試行授業実施率（計画どおりに試行授業を実施できたモデル校クラスの割合）は、平均で69.0%である。モデル校のなかには、2年次、3年次に計画以上に試行授業を行ったクラスもあった（付属資2 ミニッツ ANNEX 7を参照）。
2. 試行授業期間中の指導法改善 指導法の実践を通じ、教員の指導法を改善したことを示す項目の回答	質問紙調査で、モデル校関係者は主に以下の内容について「試行授業で指導法が改善された」とした：1)教員の話す時間が短くなった、2)子どもが積極的に発言するようになった、3)子どもが発言あるいは回答するのを教員が待つようになった、4)子どもが自分の意見を言えるよう、教員が促すことができるようになった、5)授業内容が日常生活により結びついたものになった（MonEduc Consulting LLC, 2009）。

【成果3】モデル校において、学校現場に応じた「指導法」が試行され、その結果、「指導法」が現場の学校でより活用可能となる。	
指標	達成度（あるいは協力期間終了時の見込み）
2-1. 試行授業期間中の指導法改善の事例	モデル校関係者に対するインタビューでは、教員が優秀な子どもだけでなく教科に苦手意識のある子どもに配慮できるようになった、子どもがつまづいた場合、その原因を子ども自身が考えられるように指導できるようになったなどの改善事例が明らかになった。
3. 85%以上の試行教員が指導書開発プロセスに満足する。	質問紙調査によると、試行教員の指導書開発プロセスに関する満足度は、目標値の85%以上を上回り96.5%（57人中55人）となった（MonEduc Consulting LLC, 2009）。調査団が実施したインタビューにおいては、1年次よりは2年次、2年次よりは3年次の方が、自分たちの経験が指導書に反映され満足していると発言した試行教員が多かった。

【成果4】「指導法」の導入および継続的実施のためのモニタリング手法が開発・実施される。	
指標	達成度（あるいは協力期間終了時の見込み）
1. モニタリングした試行授業時間数 1-1. モニタリングの計画値と実績値の比較	当初計画では、モニタリングはすべての試行授業で行うことを想定していた。モデル校の当初計画に対するモニタリング実施率（すべての試行授業の内モニタリングを実施したクラスの割合）は、平均で68.0%だった。2年目には、ウランバートル市の97番学校のように、試行授業以外でもモニタリングを実施している例もみられた（付属資料2 ミニッツ ANNEX 7を参照）。
2. モニタリングマニュアル	モニタリングマニュアルは、終了時評価調査時点でモニタリングワーキンググループが中心になって、最後のとりまとめ作業が行われていた。プロジェクト終了時まで、印刷も含め完成する予定である。教育省は、モニタリングマニュアルを各学校に配布することを希望しており、600部の印刷代はADBローンを活用して負担することができるとしている。プロジェクトでは、最終的な印刷部数を検討中である。

3-2-2 プロジェクト目標の達成状況

終了時評価時点でのプロジェクト目標の達成状況を以下に示す。

【プロジェクト目標】 「指導法」が、基礎教育の新スタンダードに応じて開発される。	
指標	達成度（あるいは協力期間終了時の見込み）
1. 開発された指導書 1-1.8 科目24単元の指導書	1年次と2年次の指導書はすでに完成され、全国の学校に配布されている。指導書の質の確保のため、1年次から教育省が依頼した外部専門家2人が、プロジェクトで作成した指導書を査読し、各ワーキンググループが最終的にそのコメントをもとに修正する体制をとっている。3年次の指導書は、終了時調査評価時点で各ワーキンググループが査読者のコメントを修正している最中で、7月のプロジェクト終了までには印刷を含め作業が終わり、8教科24単元の指導書がすべて

	完成される見込みである（各教科の単元は、付属資料 2 ミニッツ ANNEX 5 を参照）。また具体的な指導法の導入方法がわかるよう、各ワーキンググループが教育テレビの協力で教科ごとの試行授業を撮影した DVD を作成中で、最終的には 3 年次の指導書に添付され全国の学校に配布される予定である。
1-2. プロジェクト関係者以外（指導書開発過程に携わっていない人）による指導書の質に対する評価の回答（質問紙調査結果）	プロジェクト活動にはまったく従事していない、非モデル校や非モデル県の指導主事らのうち、質問紙調査に回答した 85%以上が、指導書は新教育スタンダードや教育現場に適しており、内容もわかりやすいと高く評価した。またプロジェクトに関与していない回答者の 66.2%が、指導書は読んだだけでも導入できそうであると回答し、残り 33.8%は、研修やガイダンスなどが無いと指導書を読んだだけでは指導法を実践できないと回答した（MonEduc Consulting LLC, 2009）。
2. 「指導法」が実践されている授業数（プロジェクトによる試行授業数を除く） 2-1. 試行授業以外での指導法の実践状況	質問紙調査によると、回答した 71 人の試行教員のうち 66 人（93.0%）が、試行授業以外でも指導法を実践したと回答した（MonEduc Consulting LLC, 2009）。 調査団が実施したインタビューでは、試行教員が教材研究や授業準備、試行授業の実施、試行授業後の検討会など一連の授業研究に深く関与したことで、プロジェクトで導入した指導法の中身を十分理解することができたと回答した。また、初年度よりは 2 年次、2 年次よりは 3 年次と年次を重ねるごとに、指導法の知見やスキルを身につけ、試行授業以外でも導入できるようになったことが、モデル校の校長や学習マネージャー、授業モニタリングを行った試行教員以外の関係者からのインタビューで明らかになった。このほか、試行教員のみならず、授業モニタリングを行った教員や公開授業で試行教員の指導法を観察した他の教員らが、指導法を自分たちの授業にも取り入れているという事例を、モデル校とのインタビューで確認できた。
3. 授業に対する子どもの態度の変化 3-1. 授業に対する子どもの態度の変化を示す項目の回答 3-2. 授業に対する子どもの態度の変化を示す事例	授業に対する子どもの変化について、質問紙調査の項目では以下の指摘が多かった：1)子どもが自分の考えを発言するようになった、2)授業により積極的に参加するようになった、3)実験や観察を行えるようになった、4)子どもの学習意欲が高まった（MonEduc Consulting LLC, 2009）。 モデル校や試行教員、指導主事ら関係者に対するインタビュー時にも、試行授業後に子どもががつまづくことや間違いを回答することを怖がらなくなった、授業中に子ども同士が協力するようになったなど、好ましい変化が多く報告された。視察した試行教員による授業からも、子どもが積極的に授業に参加していることが確認できた。

3-2-3 上位目標とスーパーゴールの達成見込み

プロジェクト終了 3～5 年後に達成が見込まれる、上位目標の達成見込みとさらに長期的目標であるスーパーゴールの達成見込みについて以下に述べる。

【上位目標】「指導法」が、モデル県（ウランバートル市、ドルノド県、セレンゲ県）において普及する。	
指標	達成見込み
1. 開発された指導書がモデル県に配布され、すべての教員に活用される（読まれる）。	<p>1年次と2年次に開発された指導書は、教育省資金（ADB ローンによる）とプロジェクトの予算で、全国の学校へ配布した。</p> <p>質問紙調査はモデル県の非モデル校 15 校でも行っており、非モデル校の回答した教員 157 人のうち 62.0%にあたる 98 人が、指導書のすべてまたは一部を読んだことがあると答えた。しかし、回答者の 38.0%にあたる 59 人の教員が配布された指導書を読んだことがないと回答した（MonEduc Consulting LLC, 2009）。</p>
2. 「指導法」がモデル県の 70%の教員により実践される。	<p>統計的に有意な数値かどうかは不確かだが、質問紙調査によると、非モデル校で回答した 96 人中 62 人の教員（64.6%）が新しい指導法を実践していると回答した（MonEduc Consulting LLC, 2009）。</p> <p>モデル校やプロジェクト活動に従事した指導主事に対するインタビューで、指導法が非モデル校へ徐々に普及され始めていることが明らかになった。たとえば、セレンゲ県やウランバートル市では、ワーキンググループと連携・協力して、市の研修会などを通じて非モデル校にも指導法を紹介したという。ドルノド県では、指導主事らがモデル校やワーキンググループと協力して、非モデル校教員をモデル校の試行授業の観察に招待し、指導法の実践を見聞させる機会を提供したという。</p> <p>こうした取り組みの反面、「指導法の知見やスキル習得は一夜にしてならず、研修と実践を通じて可能だろう」とモデル校の試行教員やワーキンググループのメンバーの多くが指摘する。「文字どおり試行錯誤で試行授業に取り組み、回を重ねることに指導法を身につけた」と述べる試行教員もいた。やる気ある試行教員や一部の指導主事による、既存の研修会や教員再訓練での紹介程度では、指導法の知見やスキル習得は不十分で、さらに具体的な普及戦略と普及制度の整備が必要になると考えられる。</p>

【スーパーゴール】 子どもの発達を支援する指導法がモンゴル全土に普及する。
達成見込み
<p>1年次と2年次に開発した指導書は、前述のとおり全国の学校に配布されており、視察した非モデル校でも配布が確認された。</p> <p>プロジェクトでは指導法や開発した指導書の広報にも力をいれており、プロジェクトが発行するニュースレターはモデル校のみならず非モデル校にも配布されている。</p> <p>2009年1月、教育省とJICAは「教員再訓練計画プロジェクト」のフォローアップ研修を共同で開催し、全国の指導主事や教員養成大学の教員を対象に、プロジェクトで取り組んだ指導法や開発した指導書を紹介した。この研修を通じて指導法に関して興味を持った非モデル県の指導主事から、プロジェクトとワーキンググループに詳細な情報提供や助言を求める問い合わせが数件寄せられている。</p>

質問紙調査によると、調査対象となった3つの非モデル県で回答した教員163人中95人が、配布された指導書の一部またはすべてを読んだことがあると答えた。同様に3つの非モデル県の調査に回答した21人の指導主事のうち17人は指導書の一部またはすべてを読んだことがあると答えた。一方で、まったく見たことも読んだこともないと回答した教員や指導主事がいることも明らかになっている（MonEduc Consulting LLC, 2009）。

プロジェクト実施期間中には、プロジェクトコーディネーターである2人のカウンターパートの尽力もあり、新しい指導法の普及を後押しする政策が大臣令の形で立て続けに出された。詳細は後述の4-4 インパクトを参照。

プロジェクトで開発した指導法は、従来の指導法とまったく異なり、教員が新しい指導法を習得し授業で実践できるようになるには環境と時間を要すると考えられ、スーパーゴールの達成には効果的な普及の仕組みの確立が必要不可欠である。

3-3 実施プロセス

3-3-1 プロジェクトのマネジメント体制

(1) 実施体制

本プロジェクトは業務実施型で実施されており、プロジェクト専門家の派遣はシャトル型となっており、それぞれのモンゴルでの滞在期間も必ずしも長くない。しかし、プロジェクトは計画どおりに活動を実施し、所定の成果もほぼ達成することができている。プロジェクトの円滑な実施を可能にした要因として、教科別の8つのワーキンググループ（2-3-1 図1 参照）を中心にプロジェクトの実施体制がとられていたことがあげられる。

プロジェクト開始当時、ワーキンググループは4つの指導法開発センターに所属する大学教員と3つのモデル県/市の教育局の指導主事、モデル校の教員で構成されていた。活動の進展に伴い、ワーキンググループによってはモデル校教員も引き続きメンバーになっていたが、大半のグループは指導書を直接執筆する大学教員がメンバーの中心となった。指導主事はワーキンググループのメンバーを降りていた⁸、指導書作成研修会や指導法改善研修、試行授業前研修会、レビュー会合を通じて、指導書開発の活動に携わった。モデル校教員と指導主事の関与や大学教員のリーダーシップ、チームワークの度合いはワーキンググループによって多少異なるものの、ほとんどのグループが主体的に指導書作成に取り組んだことがカウンターパートや日本人専門家に対するインタビューから明らかになった。

なお、中間評価調査ではモニタリングワーキンググループのモンゴル側のメンバーの役割が不明確と指摘されたが、その後、実施体制の見直しが行われた。リーダーを選出し、各メンバーの役割分担を明確にするなど体制を整えた。プロジェクトで試行授業や検討会で使うモニタリングフォームの取りまとめを担うモデル校の学習マネージャーや、各ワーキンググループから新たなメンバーの選出も行った。その結果、同グループはモニタリングフォームの改訂やモニタリングマニュアルの取りまとめなど、順調に活動を実施していることが確認された。

8 プロジェクト計画時には、県/市教育局がモデル校に対して研修を行うことになっていたが、実際には同局に対する講師養成研修のような特別な研修を実施しないで行うことは難しく、プロジェクトでは柔軟に計画を変更しワーキンググループが研修を実施していた。このように、指導主事が中心になってプロジェクト活動を行う必然性が薄れたこともワーキンググループの構成メンバーが変わった一因と考えられる。

(2) 活動進捗のモニタリング

プロジェクト活動全般の進捗状況のモニタリングは、プロジェクト関係者間での頻繁な連絡や会合、研修会やワークショップ、合同調整委員会会議といった複数の方法で行われていた。日本人専門家がモンゴルに滞在しない期間は、カウンターパート、特にワーキンググループのリーダーである大学教員とのメールのやりとりやプロジェクトが直接雇用したスタッフを通じて、活動の進捗の把握に努めた。これらのモニタリング方法は、プロジェクトの進捗管理や成果の確認、課題の共有・解決という点で役に立ち、関係者間で共通認識を持つ上でも有効だったことが、調査団の実施したインタビューや質問紙調査の結果から推察される。

(3) コミュニケーション

カウンターパート、特に各ワーキンググループの中心的な役割を担った大学教員と日本人専門家間のコミュニケーションは、優秀な通訳を複数配置し全般的に円滑に行われた。日本人専門家の現地派遣期間が決して長くない中、各専門分野について相談して的確な助言をもらったと回答したカウンターパートが多く、専門家との信頼関係がうまく築けていることが推察された。日本人専門家からの回答でも、現地派遣期間中には各教科のワーキンググループとの協議やモデル校での活動を通じて技術移転を行い、教育省や教育研究所との協議で関連政策の動向の把握に努めていたこと、一部の専門家はモンゴル語の習得に積極的に努めたこと、現地不在期間中はメールで関連情報の提供や活動進捗を確認するなど信頼関係や円滑なコミュニケーション構築のための工夫をそれぞれが行っていたことが明らかになった。

各ワーキンググループ内のコミュニケーションは、グループによってもその度合いが異なるようだが、開始時に比べ指導書作成に向けての一連の活動を通じて改善されたと述べるカウンターパートが多かった。とりわけ大学教員とモデル校のコミュニケーションは、開始時に比べ頻繁に図られるようになった。

ワーキンググループ間のコミュニケーションについては、カウンターパートや日本人専門家間でもその評価が分かれている。3年次の指導書の付属映像教材であるDVDの作成やモニタリングマニュアルなど横断的な活動を通じてワーキンググループ間のコミュニケーションが改善されたという見方がある一方、期待するほど協力的な関係が築けなかった、指導書に他教科や他領域の関連性の記述が十分ではなかったという意見も出された。

日本人専門家同士のコミュニケーションは、派遣期間が異なり他の専門家との情報共有がやや難しかったと指摘する専門家もいたが、全体的には派遣期間中に加え、日本で年度始めと終わりに開催した会議や報告書で互いの活動進捗を共有しており、コミュニケーションの観点からは大きな問題はなかったといえる。

プロジェクト全体と教育省とのコミュニケーションは、プロジェクトコーディネーターとして配置された教育省初等教育局のカウンターパートや合同調整委員会での協議を通じて、円滑に行われていたことが関係者からのインタビューや質問票の回答、協議議事録から確認された。

(4) プロジェクトに対する主体性

指導法改善に関する問題意識や意欲は、プロジェクト開始前から、4つの指導法開発センターに所属する大学教員で非常に高かったことがうかがえる。

モンゴルでは90年代からデンマーク国際開発庁(Danish International Development Agency: DANIDA)やソロス基金が支援したプロジェクトを通じて、児童中心の指導法の必要性が指摘されて

おり、一部の大学教員は諸外国の事例から指導法を研究していた。2003年から2005年にかけては教育省にJICA個別専門家が派遣され、その尽力や助言によって、モンゴル国立大学とモンゴル教育大学に初等教育や理科教育、IT教育、数学教育の4つの指導法開発センターが設立された。JICAの専門家からの技術指導を通じて、大学教員は日本の指導法に強い関心を持ち、教員向けの指導書や教科書を日本から入手し、翻訳して研究していたという実績もある。

モデル校や指導主事の中にも、本プロジェクト以前に実施されたJICA大阪国際センター主管の「教員再訓練計画プロジェクト」(2003～2005年)の本邦研修に参加し、日本の指導法の知識をある程度得ていた者も関わっている。インタビュー時にセレンゲのモデル校のある試行教員が「研修に参加し、子ども中心の新しい指導法を日本で見聞きしたが、帰国後実践する環境がなかったので、本プロジェクトが開始されてモデル校に選ばれたことは非常にうれしかった」と述べていたことに代表されるように、指導法改善に取り組みたいという素地が一部のカウンターパートに既にあったことが推察される。

このほか、カウンターパートのプロジェクトに対する主体性が醸成、維持された理由は、プロジェクトが指導書開発の一連の活動にカウンターパートが直接従事するデザインであったこと、指導書開発過程で大学教員、指導主事、モデル校教員という、異なる三者が協働作業をしたことにより、互いに学び協力しあう関係が醸成されたこと、ワーキンググループ間でよい意味で競争意識が生まれた結果、各グループの活動取り組みへの動機づけになったこと、後述する日本人専門家の的確な技術指導が効果的であったことなどが挙げられる。

なお、中間評価時にはセレンゲ県とウランバートル市の指導主事のプロジェクト活動への関与が十分でなくその改善が提言されていたが、終了時評価時にはこうした問題点は改善されているように見受けられた。その理由としては、中間評価以降にセレンゲ県とウランバートル市で人事異動があり積極的な指導主事が配置されたこと、これまで専任の担当主事がいなかった教科に人員が配置されたこと、日本人専門家から双方の指導主事に対して頻繁に連絡を取り、円滑なコミュニケーションをとるように努めたことが考えられる。ウランバートル市やセレンゲ県の指導主事からは、指導書に関する自分たちのコメントが特に3年次になって反映されるようになり、ワーキンググループの大学教員との関係が改善されたという意見が多く聞かれた。「コメントがほとんど反映されていない」と指導書開発にネガティブな発言が指導主事から多く聞かれた中間評価時とは異なり、前向きな変化があったことを示している。指導書開発サイクルを3回行った結果、関係者にも徐々に余裕ができ、互いの協力関係が改善されたとも考えられる。このほか、ウランバートル市は管轄する学校数が多い上、他ドナーによるプロジェクト活動もあり、一般的に指導主事はプロジェクト活動に対する優先度が中間評価時には必ずしも高くなかったと考えられる。しかし、2008年春に市内9つの区にそれぞれ区教育課が設置され、指導主事が増員されたことにより、プロジェクトに関与していた指導主事の業務量が軽減され、結果的に3年次はプロジェクト活動に以前より積極的に従事できるようになったと推察される。

3-3-2 技術移転状況

日本人専門家からカウンターパートに対して、各教科の子どもの発達を支援する指導法、指導書づくりに関する技術移転が研修や会合を通じて行われた。具体的には指導法改善の柱となる授業をどのように設計、実施、評価し、改善につなげていくかという点に重きがおかれ、1年目は授業研究、2年目は教材研究、3年目は子どもの発達と毎年キーワードを設定して概念の説明や実践的な手法を指導した。技術指導の際はなるべく実践的で理解しやすいように、映像や具体的な事例、モンゴルに適

した事例、身近なものを使って作れる教材、難しい概念をキャッチコピーで紹介するなど、さまざまな工夫がなされた。

カウンターパートである大学教員の多くは、プロジェクトを通じて授業研究をはじめ、教材研究、各教科の子どもの発達に応じた指導法、指導書開発に関する知見やスキルを身につけたと回答しており、日本人専門家からの技術移転は順調に行われたと判断できる。

また、1年次と2年次には本邦研修を行った。本邦研修では、日本の学校現場を視察し、指導法が具体的にどのように導入されているか、教員が子どもの発想や思考を促すためにどのように授業を準備、実施しているか等についての理解を進めた。この研修は参加したカウンターパートから高く評価されており、研修後、本邦研修に参加していないカウンターパートへ学んだ技術・知識の共有を行っている。これら、本邦研修に参加していないカウンターパートも、参加者から日本の実践例を学び、指導法に関する理解を深めたと高く評価していた点は特筆できる。

指導主事やモデル校に対するインタビューでは、モデル校で実施した試行授業から新しい指導法の実践のためには教材研究を含む入念な授業準備が必要なることを理解したという意見が多く聞かれた。また授業研究については、授業を見る視点が変わったという意見が多く出された。具体的には、プロジェクト開始前にも行われていた公開授業など他の教員の授業を参観する際、教員のみを注視し批判する傾向にあったが、プロジェクトで行った試行授業やモニタリング、検討会など一連の授業研究を経験することによって、授業の内容や指導法、子どもの学習状況など多角的な視点でみることや、建設的な意見を出し合うことができるようになったという。モデル校は9校と限られているが、新しい指導法に関して確実に技術移転が行われたと判断できる。

3-3-3 効果発現に貢献した要因

(1) 計画内容に関すること

プロジェクトでは、大学教員と県/市教育局指導主事、モデル校関係者が、各種研修のほかモデル校における試行授業や授業観察、試行授業後に行う検討会を通じて、指導書と指導法を開発するアプローチが計画時から組み込まれていた。この三者協働アプローチが、従来の大学教員が中心となって作成されるアカデミックな指導書とは異なり、モンゴルの教育政策に一致し教育現場で活用できる指導書の開発を可能にした。これは、プロジェクトの成果や目標の達成に貢献し、妥当性や有効性を高めた最大の要因である。また本邦研修は、問題意識の高い大学教員が日本で実践されている子どもの発達を支援する指導法を体験的に学び、モンゴルの実情に合わせた指導法開発を行う上で非常に役に立っている。さらに、これら大学教員が教員養成課程で新しい指導法を取り入れるなどインパクトが発現している。このほか、モデル校の試行授業や授業観察、検討会といった一連の指導法試行サイクルが、ウランバートル市のモデル校では3年、残り2つの県では2年連続で計画・実施されたことにより、プロジェクト関係者が実践的な指導法に関する知見とスキルを確実に習得し、成果の達成やインパクトの発現、技術面の自立発展性に大いに貢献したといえる。

(2) 実施プロセスに関すること

カウンターパートの中にはプロジェクト開始以前の JICA の個別専門家の技術指導や、「教員再訓練計画プロジェクト」が実施する本邦研修により、日本の指導法に関する知識をある程度持っていた者がおり、このことがカウンターパートの主体的な活動実施につながったと考えられる。また、教科別の8つのワーキンググループによる指導書開発プロセスは、ワーキンググループ間のいい意味での競争意識を芽生えさせ、効率的でかつ効果的な活動実施に貢献したと考えられる。さらに日本人専門

家による技術指導は、新しい指導法開発に必要な概念として、1年目は授業研究、2年目は教材研究、3年目は子どもの発達というキーワードを設定して効果的に行われたことで、カウンターパートのプロジェクトに対する認識や参加度を高めた。

3-3-4 問題点および問題を惹起した要因

(1) 計画内容および実施プロセスに関すること

プロジェクトの指標に関し、必ずしもすべての指標において、客観的な数値目標が含まれているわけではなく、終了時評価時では 1-5-3 にも記載のとおり、判断基準を新たに確認する必要が生じた。本プロジェクト開始時にはベースライン調査を行っているが、本来、そのベースライン調査の結果を指標設定や目標値の設定に有効活用すべきであった。

第4章 評価5項目による分析

4-1 妥当性

【非常に高い】

プロジェクトが目指す方向性は、モンゴル政府による教育政策と日本側の対モンゴル援助政策に合致しており、子どもの発達を支援する指導法開発の手段としても適切なことから、妥当性は非常に高い。

(1) モンゴルの教育政策との整合性

モンゴルでは90年代以降の民主化、市場経済化に伴って教育セクター改革が進められていた。2005年に施行された新指導要領「新教育スタンダード」は、従来の知識暗記型中心の指導法から、子どもの発想や思考を促すような子どもの発達を支援する指導法への転換を明確に掲げている。プロジェクトはこれを具現化する取り組みをしている点から、同スタンダードとの整合性が非常に高く、教育省の優先事項とも合致する。

教育マスタープラン（2006～2015年）は教育分野の中・長期基本戦略で、教育のアクセスの改善と質の高い教育制度の確立を主な目的に掲げている。プロジェクトの柱となる指導法改善は、最終的には基礎教育の質の改善を目指すものであり、同プランの目標とも一致する。

(2) 必要性

子どもの主体性や理解を重視した子ども中心の指導法の必要性は、90年代からデンマーク国際開発庁（DANIDA）やソロス基金のプロジェクトを通じて、教育省や大学教員など一部の教育関係者に認識されていた。教育省や国立教育研究所、モンゴル国立大学とモンゴル教育大学に設置された4つの指導法開発センターが中心になって、日本を含めた諸外国の文献や教材を参考に指導法の研究を行っていた。他方、2005年に導入された新教育スタンダードにおいて、子ども中心型の教育への移行を目指したものの、大学教員が中心になって作成しているため、その内容がアカデミックで学校現場の教員が理解しづらい、子ども中心型の具体的な指導法がわからないという批判が出ていた。さらに同スタンダードに導入によって基礎教育課程は10年制から11年制へ、2008年9月には12年制へと移行し、教員は総合学習や総合理科など新たな教科を教えることが求められるようになった。プロジェクトでは、これまで指導法開発の支援の対象となっていなかった理系の科目や、新たな教科となった総合学習や総合理科を含む8教科を網羅し、実践的で教育現場に即した、子どもの発達を支援する指導法を開発していることから、教育省をはじめとする教育機関と現場の教員のニーズに合致した協力で、必要性も高い。

(3) 問題解決手段としての適切性

モンゴルではこれまで指導書は大学教員を中心に作成され、その内容はアカデミックで必ずしも学校現場の現状を反映したものではなかった。プロジェクトでは、大学教員、県/市教育局指導主事、モデル校の異なる三者が主体的に子どもの発達を支援する指導法開発、指導書開発に携わっている。このような三者の協働体制が、モンゴルの現状に即し、学校現場の現状に合う指導書開発を可能にしたと考えられる。

また、プロジェクトのモデル地域は首都があるウランバートル市のほか、地方のセレンゲ県とドル

ノド県が選ばれ、モデル校は都市部と村落部（ソム）、統合校（施設・設備・人的資源の無駄のない活用による効率的な学校運営を目的として、隣接する複数の学校を1つの学校として統合）とそうでない一般校も選択された。こうしたモデル校の選択により、汎用性の高い指導書開発が可能となり、今後プロジェクトで開発した指導法が他地域のさまざまな学校で適用されることが期待できる。これらの点から、プロジェクトは課題の解決手段として適切だったといえる。

（４）日本の援助政策との整合性

日本の外務省対モンゴル国別援助計画（2004年11月）とJICAの国別事業実施計画（2006年12月改訂）では、「市場経済化に見合う人材育成」が重点協力分野の1つである。プロジェクトが支援する、基礎教育分野への支援も開発課題の1つとして位置づけられていることから、援助政策との整合性が高いと判断できる。

日本では戦後から児童の興味や生活、経験に基礎をおく児童中心の教授法が導入され、現在も子どもが自ら学ぶ力を引き出す指導法の研究・改善への取り組みが行われている。JICAはこうした日本の経験をもとに、これまでミャンマーやアフガニスタン、エジプトや中南米などで教員用の指導書開発の技術協力を行っている。このように、日本は子ども中心の指導法や指導書開発のノウハウを蓄積してきており、技術的な優位性は明らかである。

モンゴルの基礎教育分野では、JICAの個別専門家の教育省派遣（2003～2005年）や教員再訓練計画プロジェクト（2003～2006年）などの協力実績があり、過去の協力を通じて日本の指導法や自国の指導法改善に強い関心を持つようになったプロジェクト関係者も多い。またプロジェクト期間中の2006年に青年招聘プログラムでモデル校の教員15人を日本に派遣し、帰国後もプロジェクトの研修に優先的に参加させるなどの連携があった。このほか、セレンゲ県のモデル校には青年海外協力隊の数学隊員が派遣され、隊員の子どもに対する指導法は、同僚の教員のほかプロジェクトのワーキンググループメンバーからも賞賛されるなど影響を与えた。さらに、2009年1月には教員再訓練計画プロジェクトのフォローアップ研修として、教員大学関係者と全国から数人ずつ指導主事を招待し、プロジェクトで開発した指導法と指導書の紹介を行うなど指導法普及にむけて関連プロジェクトとの連携を進めた。このようにプロジェクトでは、過去の協力との連携・協調による相乗効果が徐々に生まれており、日本の協力として妥当性も非常に高く、適切であった。

4-2 有効性

【高い】

4つの成果はほぼ達成しつつあり、プロジェクト目標の新教育スタンダードに応じた実践可能な指導法開発に貢献していることから、プロジェクトの有効性は高いと評価できる。

（１）プロジェクト目標の達成度と成果の貢献

3-2-2で述べたとおり、各成果がほぼ達成、あるいはプロジェクト終了時までの達成が見込まれており、プロジェクト目標の達成、すなわち新教育スタンダードに応じた指導法開発に大きく貢献している。プロジェクトでは、子どもの発達を支援する指導法と教育現場の実情にも詳しい、専門性のきわめて高い専門家が適切に技術移転を行い、カウンターパートの興味・関心、やる気を高め、彼らの主体的な指導書開発を支援した。特筆すべきは、大学（研究）と県/市教育局（行政）、学校（教育現場）の三者協働体制により指導書を作成したことである。こうしたアプローチがモンゴルの現状や教育現場のニーズに合った指導書開発を可能にし、プロジェクト全体の有効性を高めたと判断できる。

なお、中間評価時では、ワーキンググループの業務過多が有効性の阻害要因になりうるとの指摘が

なされたが、終了時評価では業務過多が阻害要因になっていると判断できる意見や実態は見当たらなかった。むしろ業務が忙しくても成果やプロジェクト目標達成のために活動を実施してきたと、効果発現を強調するワーキンググループメンバーが多かった。

(2) 因果関係

プロジェクトは、成果1でニーズ調査や本邦研修などを通じて、モンゴルの現状に見合う指導書案を作成し、成果2では指導書案をもとに指導書作成研修会や指導法改善研修会、試行授業前研修会などを通じて学校現場に合うように修正され、成果3ではモデル校で試行授業や検討会を行い、成果4で開発したモニタリング手法を実施して、さらに学校現場で適用可能な指導法と指導書に改善していくというデザインである。プロジェクトの内容を十分把握した上では、4つの成果（アウトプット）からプロジェクト目標に至る論理に矛盾はない。他方、1-5-3 (2) PDM の検証にも記載のとおり、PDM 上の論理的な相関関係を明らかにする必要があるところや、指標についても新たな解釈を行う必要があるところがあり、留意されるべき点があった。

4-3 効率性

【高い】

一部モンゴル側が負担すべき投入が計画どおりになされなかったものの、日本側とそのほかのモンゴル側からの投入は、双方ともタイミングよく実施され、大半の活動は順調に実施されている（3-1実績の確認、3-2達成状況を参照）。全般的に効率性は高いと判断できる。

(1) 日本側の投入

これまでに6分野12人の専門家が派遣された（3-1-1の投入実績参照）。3-3の実施プロセスの項で述べたとおり、専門家の専門知識や経験、技術移転の方法が、カウンターパートから高く評価されている。派遣時期については、一部カウンターパートから自分たちの多忙な時期に重なり調整が困難だったと意見が出ていたが、全般的には活動の効率性に影響を与える問題は起きていなかった。専門分野に関しては、プロジェクト側では複数の教科を担当する理科教育の専門家の派遣時期をそれ以外の専門家より若干長くするなどの対応をとった。一部専門家の頻繁な交代があったことは、モンゴル側カウンターパートにとって、新しい専門家との関係を再び築く必要があり、コミュニケーションの点でやや難しかったとの指摘も聞かれた。また、カウンターパートの多くは、派遣人数、分野、派遣期間についても適切だったと、回答している。

1年次と2年次に実施した日本での本邦研修は、その内容および期間ともに参加したカウンターパートの間で軒並み評価が高かった。参加していないカウンターパートも、研修参加者から情報や知見を得ており、指導法の改善や指導書の作成に役立っていると前向きなコメントが多かった。日本人専門家によると、2年次の研修参加者は1年次の研修参加者の経験をふまえて、研修で学んだことをいかに指導書に反映させていくかを常に意識しながら研修に参加していた。研修後もプロジェクト活動に対する当事者意識が一層高まったり、ワーキンググループでのチームワークが改善されたりするなど、プラスの効果がみられた。

日本側から供与されたデジタルカメラやデジタルビデオ、コンピューターなどの機材は、すべて現地で調達され、2年次からの試行授業に即座に活用された。これら機材については投入時期やその機種について一部異論も聞かれたものの、プロジェクトの限られた予算や同一機種を複数調達するのが難しいモンゴルの事情、供与された機材で指導書開発に必要な最低限の活動が問題なく実施されてい

る点も考慮すると、総合的に判断して供与機材の種類や数は適切だったといえる。

プロジェクトでは各種研修にかかる経費を負担したが、さらに2年次からはモンゴル側の強い要請もあり、試行授業に関するモデル校とワーキンググループの活動費も負担した。これらは指導書開発には欠かせない経費であり、日本側が負担していなければ活動が滞っていた可能性が高いため、適切な対応だったと判断できる。

(2) モンゴル側の投入

3-1-2で述べたとおり、プロジェクトには19人の主要なカウンターパートをはじめとし、ワーキンググループにも適切に人材が配置された。また、プロジェクト開始以前より指導法改善に対する関心や意識を高く持っていたカウンターパートが多く配置されていた。これらの点は、一貫した技術移転を効率的に行ううえで望ましい環境を整えたといえる。

モンゴル側が負担する現地活動費には、2005年12月の第2次事前評価調査の協議議事録や2006年5月に合意されたR/Dに記載のあるとおり、プロジェクトで行う研修やモデル県へのモニタリングにかかる交通費や手当て、宿泊費が含まれていた。しかし、プロジェクト開始後に教育省側からJICAの在外事務所に対して、経済が逼迫しているため地方出張費と宿泊費、モデル校とワーキンググループの活動費を負担してほしいとの要請があり、検討の結果、JICA側が要請を受け入れ、最終的にはプロジェクトが負担した。その結果、活動実施には支障がなかった。

日本人専門家用の執務室についても、モンゴル側から滞りなく提供された。

(3) 類似プロジェクトとの比較

JICAが他国で実施している類似案件の総投入コストとの比較は、プロジェクトが対象とする指導書の扱う範囲や地理的な協力範囲が大きく異なるため、きわめて困難である。しかし、他の類似案件と異なり、プロジェクトの柱である指導書開発はカウンターパート主導ですべて行われ、日本人専門家は適宜助言を行う側面支援の立場を貫いた点は、本プロジェクトの特筆すべき点であり評価できる。無駄のない投入で、非効率的と考えられる活動や成果もなく、コストパフォーマンスは高いと考えられる。

4-4 インパクト

【やや高い】

これまで順調にプロジェクトが成果の達成やプロジェクト目標を達成しつつあることと、上位目標への波及効果ともいえる正のインパクトも徐々に発現しており、プロジェクト終了から3～5年後に上位目標の達成はある程度見込める。一方で、モデル県への指導法普及の中心的な役割を担うであろう、県/市教育局の制度面や財政面を考慮すると、終了時評価時点で上位目標が達成できるとまでは言い切れない。したがって、これらを総合的に判断するとインパクトはやや高いといえる。

(1) 上位目標への波及効果と達成見込み

3-2-3で述べたとおり、開発された指導書はモデル県を含む全国の学校に1セットずつ教育省資金(ADBローンによる)とプロジェクトの予算で配布されている。モデル県指導主事などは、非モデル校に対しても既存の教員再訓練やモデル校での試行授業、公開授業、研究会を通じて、徐々にではあるがプロジェクトで開発した指導法と指導書を紹介する試みを始めている。こうした試みは前向きに評価することができる一方、子どもの発達を支援する指導法は従来の指導法とは考え方も導入方法

も大きく異なるため、既存の研修会や教員再訓練において新指導法を紹介するという試みだけでは、プロジェクトが上位目標として目指す普及とはいえないだろう。モデル校として2年から3年間、研修から試行授業、検討会に至る一連の授業研究を体験して、ようやく新しい指導法が身につく、その意義を理解したと発言するモデル校関係者も多く、こうした体験がなければ、新しい指導法の効果やその実践に懐疑的な教員が多くいることも推察できる。

プロジェクト終了から3～5年後に上位目標を達成するためには、モデル県/市での指導法を確実に普及させるための具体的な普及戦略と普及制度を整備する必要がある。

(2) 上位目標以外の波及効果

モンゴル国立大学とモンゴル教育大学の大学教員がプロジェクトのカウンターパートであることから、これらの2つの大学の教員養成課程で、指導法改善に関する講義が正式なカリキュラムとして一部認められた。また指導法改善を反映した教育実習が実施され、学生がワーキンググループのアシスタントとしてプロジェクトの試行授業に参加するなど、指導法改善の必要性が教員を目指す学生に認識されつつある。このほか、モンゴル教育大学は現職教員研修も実施していることから、指導法改善に関する講義が研修に組み込まれ、プロジェクトの効果の波及に貢献している。これらはプロジェクトでは想定していなかった取り組みであり、カウンターパートがモンゴルを代表する大学の教員でさらに教員養成課程や現職教員研修に関与していたために発現した効果といえる。

予期していない正のインパクトは、指導法普及を後押しする政策が制定されるという形でも現れている。2007年11月に出示された大臣令第416号は、新教育スタンダードに応じた子ども中心の授業や指導法を奨励し、それを実践しているか否かという点が教員評価の基準として採用されることが示された。2008年11月の大臣令第72号は、教員再訓練研修の枠組みを整理し、1年目、5年目、10年目の教員のための階層研修を行うことを掲げ、同研修の内容に新教育スタンダードの実践も含めることが規定された。また、本プロジェクトのような教員の能力向上に関連する事業に従事した教員は、必要な資料に基づき申請が認められれば、指導教員としての証書が付与され、学校や地方、全国において研修を行うことができるとした。ほぼ同時期に発令された2008年11月の大臣令第73号では、本プロジェクトのような指導法改善プロジェクトやカリキュラム改訂など、教員の能力向上に関連する事業に積極的に参加した教員には、専門資格の付与に必要な単位のうち本来研修参加によって得られる単位が免除されることになった。これら大臣令に伴う実際の政策の実施に関しては今後の課題となるが、このように指導法の普及を後押しする政策がプロジェクト期間中に立て続けに策定された意味は大きい。

4-5 自立発展性

【やや高い】

政策面と技術面の観点からは、プロジェクトで開発した子どもの発達を支援する指導法が継続・発展する見込みが高く、組織面ではやや高い。反面、財政面と制度面ではやや不安要素もあり、自立発展性はそれぞれ中程度と判断した。以上、総合的に判断して現時点でのプロジェクトの自立発展性はやや高いといえる。

(1) 政策面：高い

新教育スタンダードは終了時評価調査時点で、5年に1度の評価と見直しが行われていたが、その方向性は大きく変わらないと考えられる。上記4-4(2)上位目標以外の波及効果で述べたとおり、

プロジェクトが開発した子どもの発達を支援する指導法を導入しやすい関連政策が打ち出されたことから、モデル県/市で指導法を普及する上でプロジェクト終了後も政策面の自立発展性は高いといえる。

その一方で、プロジェクトで実施した指導法を実践するにはカリキュラム自体の改訂が必要と指摘されている。カリキュラム改訂については、現在基礎教育課程の12年制への移行に伴い教育省により進められているところである⁹。ただし、その具体的な方向性や見通しについては終了時評価時点において明らかではなく、直接的な評価対象には含めていない。

(2) 技術面：高い

カウンターパートは、プロジェクトを通じて指導書開発や新しい指導法に関する知見やスキルを十分身につけ、プロジェクト終了後も引き続きそれぞれの組織である大学、県/市教育局、モデル校の活動の中で活用する可能性が非常に高い。また本プロジェクトの特徴でもある、教育現場の意見を反映しながら指導書開発を行う仕組みは、具体的な経験や留意点を「指導書作成マニュアル」に文書化しており、今後も指導書開発のノウハウはプロジェクト関係者や教育関係者に利用される可能性が見込める。したがって、技術面の自立発展性は現時点でも大いに見込める。

(3) 組織面：やや高い

指導書開発に中心的な役割を果たしたワーキンググループがプロジェクト終了後も存続するかどうかは、終了時評価時点では不明である。しかし、プロジェクト関係者の指導法導入に対する意欲は高く、カウンターパートである大学教員には各教科の第一人者も含まれており、ワーキンググループの存続に関わらず、指導法開発や指導法普及の活動に直接関わる可能性が高い。指導主事やモデル校教員についても、人事異動の可能性が比較的 low、プロジェクト終了後も各組織を母体に指導法開発や指導法普及の活動は実施される見込みが現時点ではあるため、組織面の自立発展性はやや高いと判断できる。

(4) 制度面：やや低い

これまで述べてきたとおり、プロジェクトで開発した指導法は、従来の指導法と異なるため、既存の研修会や教員再訓練において新指導法を紹介するという程度の活動では、必要な知見やスキルの十分な習得は難しいと考えられる。指導法をモデル県/市に確実に普及するためには、意欲のある試行教員や一部の指導主事の個人の努力だけでは不十分で、普及に関する戦略や普及活動を支援する仕組みの整備が必要である。今後、教育省は県/市教育局やモデル校、大学と協力して対策を講じることが求められる。したがって、現状からは制度面の自立発展性はやや低いといえる。

(5) 財政面：中程度

財政面の自立発展性については、プロジェクトの外部条件も考慮して分析する必要がある。終了時評価の時点においても、世界的な金融危機や国内の財政危機の影響がすでに出始めており、また終了後においてもその影響を引き続き受ける可能性も排除できない。万が一それらの影響を受けた場合は、教育省や4つの指導法開発センター、モデル県/市教育局で指導法の普及に関する新たな予算の確保がドナーなど外部からの支援なしでは難しくなることが予想される。したがって終了時評価時点では、

⁹ 終了時評価時点に把握できた情報としては、2008年1月に1年生のカリキュラム改訂が行われ、2009年には2年生と7年生のカリキュラム改訂が行われる予定である。

財政面の自立発展性は中程度と判断できる。

なお、終了時評価時以降の動きであるが、今般の財政危機に対する財政支援として、JICA は、アジア開発銀行（ADB）との協調融資により最大で 5,000 万ドル（2 年分）のプログラムローンを実施することとなった¹⁰。本計画は、モンゴル政府が推進すべき政策アクションプランのうち、主に社会的保護に関するものを支援するものと位置づけられている。同政策アクションプランのうち、教育に関する項目には、技術協力プロジェクトに関連する新指導法の普及に伴う現職教員研修制度の強化が含まれる。

4-6 結論

モンゴル側と日本側双方の努力により、ほとんどの成果とプロジェクト目標はほぼ達成されつつある。協力内容は、教育省や教育現場のニーズや優先度、教育政策と日本の援助政策にも合致しているため妥当性が非常に高く、プロジェクト目標がある程度は達成されていることから有効性も高い。指導法開発と指導書開発に必要な投入がほぼ計画どおりに双方から行われ、とりわけ日本での研修が効果的に実施されたことや教科別のワーキンググループを中心にカウンターパートが主体的に活動を行ったことも影響して、プロジェクトの効率性は投入規模と成果の達成度の観点からみても高い。すでにプロジェクトの波及効果も一部確認できている。自立発展性は総合的に判断してやや高い。普及に関する戦略や普及活動を支援する仕組みや予算の確保など、制度面と財政面が強化されれば、より高いものとなることが期待できる。

10 2008 年以降の世界的な金融危機は、物価の急速な下落などモンゴル経済に著しい負の影響をもたらした。これにより、モンゴル政府は IMF に緊急財政支援を要請し、2009 年 1 月 IMF との間で協議が行われた。IMF は約 22 億 9,200 万ドルの供与について理事会承認を行い、2009 年 3 月、同時に各ドナーに財政支援を要請した。これを受けて、世界銀行、ADB、日本など各ドナーによりモンゴル政府への財政支援が表明された。

第5章 提言と教訓

5-1 提言

今後必要なことは、これまで行ってきたプロジェクトの活動をどのように継続するのか、また、プロジェクトの成果である開発された指導法をどのように普及するのかについて議論し、必要な体制（人、組織、政策、財政、インセンティブなど）を構築することである。

プロジェクトでは組織横断的なワーキンググループが主体となって活動を行ってきたが、これらの活動をどのような形で継続させていくのかを明確にする必要がある。

普及に関しては、モデル県／市においては、指導主事の属人的な意欲や自主性の違いにより、すでに非モデル校教員に対しても新指導法を紹介するなど取り組みが進んでいるところとそうでないところの差が見られることから、今後は組織的な取り組みが行われるように配慮する必要がある。またすでに述べてきているように、実質的な新指導法の普及については、普及に関する戦略や普及活動を支援する仕組みの整備が必要である。

以下に、本プロジェクトの成果や活動が持続されるためのみならず、開発された指導法の普及をも視野に入れた上で、プロジェクト終了時までに取り組むべき活動、短期的および中長期的に取り組むべき活動について提言をまとめた。

5-1-1 プロジェクト終了時までに取り組むべき活動に関して

（1）プロジェクト終了後のアクションプラン作成

プロジェクトで行ってきた活動や得られた成果を、今後どのように継続させ、発展させていくのかについての方針と計画を策定し、それらを実施するために必要な体制や課題について洗い出すことが必要である。特に、プロジェクトで行ってきた活動の継続と成果の普及の2つに関して議論する必要がある。

a) 今後の継続活動の明確化

継続させる活動とその必要のないものを整理し、前者に関しては、そのための仕組み、組織、制度づくりを早急に進める必要がある。その際、特に以下の点を考慮することが重要である。

- ・ **校長・教頭に対する支援：** 学校現場レベルでは、新しい指導法に関する研修への参加や授業研究を続けるためには、校長や教頭の理解が不可欠である。また、授業研究の運営や実施および授業モニタリングに関しては、教頭の関与が必要となる。したがって、校長や教頭が、新しい指導法に関する基本的な知識・技術を学んだり、授業研究を指導・運営できるようになるためのガイドブック（作成されたモニタリング・マニュアルなど）やそれらを有効に活用できるようになるための研修が必要であろう。
- ・ **指導主事に対する支援：** 指導主事の業務量の多さや各々の技術的な背景を考慮すると、現状では、すべての指導主事が教科内容に関する技術指導を行うことは難しいと思われる。当面は、実際の授業の実施や技術的なコメントに関しては試行教員が行い、指導主事は新しい指導法の普及と授業研究の導入や運営に関する助言を行う役割を担うことが適切である。そのためには、まず指導主事が授業研究や授業観察（授業モニタリング）に関する基本的な知識を習得し、それらを活用し実際に学校現場における授業研究を支援する中で、その運営や実施に必要な知見・経験が蓄積される仕組みを作らなければならない。このような活動を指導主事が行うための指導主事向けの研修を行う必要がある。

b) プロジェクト活動の普及についての方策の明確化

プロジェクトは、新しい指導法の「開発」を目的としていた。教育省としては開発された指導法の「普及」が次なる優先分野となる。そのためには、まず指導書が配布され、さらに、指導書の活用方法を研修などの機会を通じて、習得する機会を設ける必要がある。

また、配布された指導書が活用され、教員が指導法を身につけるためには、県レベルでの支援体制（経済的側面、技術的側面、運営的側面）を整備する必要がある。したがって、普及に関しては、各県・市の教育局および区の教育課がこれまで以上に主体的に関わっていく必要がある。普及策の策定にあたっては、特に以下の点を考慮することが重要である。

- ・ **新しい指導法に関する広報活動**：まずモンゴルの教育関係者が新しい指導法に触れられる機会を作ることが必要である。たとえば、i) 新しい指導法の概略やプロジェクトの成果について説明する小冊子を作る、ii) モデル校などが中心となって公開授業を行う、iii) 教育チャネルを活用する、などによる広報が考えられる。
- ・ **県・市教育局および区教育課における普及体制の整備**：県や市レベルの普及体制を作るには、まず教育局長などそれぞれの行政レベルの上層部への啓発活動が必要である。その上で、県や市レベルにおいて指導主事が助言などができるようになることが必要であろう。
- ・ **学校レベルにおける指導法普及体制の整備**：新しい指導法を普及させるためには、校長や教頭が指導法に関してある程度の知識や技術を持っている必要がある。そのために、モニタリング・マニュアルを配布することや、校長や教頭に対して新しい指導法に関する研修を行うことが重要である。
- ・ **新しい指導法の普及や活用を促進するための場づくり**：教師による研究会や実践発表会、研究雑誌など、新しい指導法に関する実践例が紹介され、記録として残り、関係者が参照できるような場や機会を設けることが必要である。また、このような場や機会が、新しい指導法を実践するためのインセンティブとなり、さらには、指導法の改善にもつながることが期待される。

(2) エンドライン調査結果の有効活用

プロジェクト最終年度に実施予定のエンドライン調査については、その結果を分析し、プロジェクトの評価と今後の方向性を議論するために活用する必要がある。指導法の改善と新しく導入された指導法の成果について、広報活動に使えるようにもデータを加工することが望ましい。

5-1-2 プロジェクト終了後、短期的（1～2年）に取り組むべき活動に関して

上記5-1-1で立案した継続活動、普及活動を支援するための制度設計（組織、仕組みづくり）を行うことが必要である。

5-1-3 プロジェクト終了後、中長期的（3～10年）に取り組むべき活動に関して

(1) 新しい指導法に対応した諸制度の整備

中間評価でも指摘したように、新しい指導法の普及や活用を促進するための諸制度（政策）を整備することが必要である。以下 (a)、(b) に関しては進展が見られているが、それらが適切に運用されるために以下のような配慮を行うことが必要である。

a) カリキュラム、教科書の検討

効率的に知識を与えることが可能な教師中心の指導法に対して、新しい指導法は子ども自身が知識

を構成することを重視しているため、従来の教師中心の指導法に比べるとより長い授業時間が必要となるとの報告が多く関係者からなされている。したがって、子どもが身につけるべき内容を減らす、あるいは、新しい指導法を用いることが特に望ましい単元とそうでない単元を設けるなど、教師がある程度の自由度を確保できるような配慮が必要となることが将来的には想定される。

b) 教師の評価について

2007年に試行された義務教育教師の評価に関する大臣令は、新スタンダードに対応した能力を生徒に身につけさせる業務によって、教師を評価することを明記している。実際に現場の教員を評価するのは、各学校の校長、教頭が中心になって行うため、新しい評価基準が適切に運用されるためには、校長・教頭が新しい指導法について理解する必要がある。そのためにも、校長および学習マネージャーに対する新しい指導法および評価基準に関する研修は不可欠である。

c) 子どもの評価（テストなど）の検討

子どもの評価を行うための試験問題が、新スタンダードに対応した子どもの能力を測るものとなっていなければ、新しい指導法の普及は難しい。そのためには、新スタンダードに対応した能力を測るための試験問題例を提示したり、そのような問題を作成するための方法に関するガイドブックを作成したりするなど、新スタンダードによって身につけられる能力が適切に評価されるような環境を作っていく必要がある。

5-2 教訓

5-2-1 教員養成関係者と現職教員が協働する仕組みの確立

プロジェクトでは、モンゴルの教員養成に大きな影響力を持つモンゴル国立大学とモンゴル教育大学の教官が、モデル校における試行授業などを通して指導法を開発していくという三者協働体制がとられるなど、現場の状況に対応した指導法を開発することが可能となった。大学の教員がこれらの活動から得られた知見を、教員養成課程にも反映するなどの取り組みも見られ、すでに教員養成の質を向上させることにも貢献しはじめている。

さらに、両大学の教官の中には、モンゴルのカリキュラム改訂や教科書執筆に関与している者も少なくなく、プロジェクトは、モンゴル教育界に新しい指導法を根づかせるための基礎作りに、大きな影響を与える可能性がある。

このように、プロジェクトでは、教員養成と現職教員研修の両方に影響力を与えるカウンターパートに対して適切な技術移転を行ったことにより、長期的な影響を与える可能性を高めた。

5-2-2 本邦研修と現地活動との高い整合性

プロジェクトの専門家として現地における活動に従事した東京学芸大学の専門家自身が、本邦研修の受け入れ先となったことにより、モンゴル側の課題の解決に最も効果的な活動を本邦研修に取り入れることができた。このように、現地活動と本邦研修との間の高い整合性によって、相乗効果が生まれた。

5-2-3 ベースライン調査、エンドライン調査の有効活用について

プロジェクトでは、包括的なベースライン調査を実施した。このベースライン調査で収集されたデータがプロジェクト・デザイン・マトリックス（PDM）の指標の目標値の設定や、プロジェクトの進捗や効果を測るために有効に活用されるべきであった。

このようなベースライン、エンドライン・データの有効な活用法やプロジェクト全体の計画につい

て、開始当初に十分な議論や準備を行うことができるよう、プロジェクト開始時にある程度の準備期間を設けることが望ましい。

5-2-4 PDMの指標の目標値について

1-5-3にも既述のとおり、評価指標のうち、その一部については、PDM指標の目標値が設定されていなかったため、終了時評価の際に指標の達成について新たな解釈を行う必要が生じた。モンゴル側と議論を行ったうえで、PDM上にあえて目標値を決めないという決定をしたのであれば、プロジェクトとして終了時に何をもって評価すべきかを事前に検討し、公式文書などに記載しておくべきであった。

以上

付属资料

1. 終了評価日程表
2. 終了時評価ミニッツ

1. 終了時評価日程表

モンゴル・子どもの発達を支援する指導法改善プロジェクト 終了時評価調査日程

			又地団長／浅野団員	島田団員	宮崎団員／エンフザヤ 団員	その他同行者	
1	3月2日	月		評価分析団員：派遣（成田発） 17:00成田発→21:20UB着	現地参团		
2	3月3日	火		午前：09:00（化学）、10:00（数学）、11:00（モニタリンググループ） 午後：14:00（総合学習）、15:00（算数）、16:00（物理）、17:00（初等理科）			UB
3	3月4日	水		午前：09:30（45学校授業視察、校長、教員インタビュー） 午後：14:00（IT（WG）インタビュー） 午後：15:30 セレンゲへ移動			セレンゲ
4	3月5日	木		午前：09:30（セレンゲ県教育局表敬・指導主事インタビュー） 午後：14:00（4学校・1学校（モデル校）授業視察、校長・教員インタビュー）			セレンゲ
5	3月6日	金		午前：07:00（セレンゲ発→移動。） 途中ダルハン（非モデル校：9学校、校長・教員インタビュー） 午後：14:00（ダルハン教育局・指導主事インタビュー） 夕方：17:00（移動・ダルハン→ウランバートル）			UB
6	3月7日	土		文書整理			
7	3月8日	日	官団員派遣 9:00成田発→11:40ソウル着 13:55ソウル発→16:25UB着	文書整理			UB
9	3月9日	月	午前：グループ①09:30（教育大学初等教育学部棟2階）、グループ②（教育大学理学部（教育大学G棟5階503号室）、10:40（国立大理学部（モンゴル国立大学A棟314号室））、12:15（財務省表敬） 15:30 JICA事務所表敬 16:00各WG代表インタビュー 18:00 ドルノド県教育局指導主事 Bayasgalan氏インタビュー				UB
10	3月10日	火	09:30 UB 市教育局長・指導主事インタビュー 13:00（ドルノドへ移動）14:30 モデル校5学校授業視察・校長・教員インタビュー			教育省-Nergui氏	ドルノド
11	3月11日	水	マタドソム校（モデル校）授業視察、校長・教員インタビュー			教育省-Nergui氏	ドルノド
8	3月12日	木	午前：（非モデル校）12学校の授業視察、校長・教員インタビュー 午後：ハンウール統合校・（モデル校）授業視察、校長・教員インタビュー			教育省-Nergui氏	ドルノド
12	3月13日	金	午前：非モデル校（Shine-hugjil）、授業視察・校長・教員インタビュー 午後：15:00（UBへ移動）			教育省-Nergui氏	UB
13	3月14日	土	文書整理				UB
14	3月15日	日	ミニッツ作成				UB
15	3月16日	月	午前：10:00 非モデル校第40学校授業視察・教員インタビュー、 午後：15:30ネルグイさんとの協議、専門家との協議、団内協議				UB
16	3月17日	火	午前：10:00副大臣インタビュー 午後：15:00（JCC）				UB
17	3月18日	水	午後：14:30大使館報告				UB
18	3月19日	木	11:00ADBインタビュー 14:00ミニッツ署名 16:00（事務所報告）、17:00初等中等教育局長インタビュー				UB
19	3月20日	金	調査団帰国 09:10UB発→14:55成田着				


**MINUTES OF MEETING
BETWEEN
JAPANESE FINAL EVALUATION TEAM AND
AUTHORITIES CONCERNED OF THE GOVERNMENT OF MONGOLIA
ON
JAPANESE TECHNICAL COOPERATION
FOR
“TEACHING METHODS IMPROVEMENT PROJECT TOWARDS CHILDREN’S
DEVELOPMENT IN MONGOLIA ”**

The Japanese Final Evaluation Team (hereinafter referred to as “the Team”), organized by the Japan International Cooperation Agency (hereinafter referred to as “JICA”) headed by Mr. Atsushi MATACHI, visited Mongolia from 2 to 19 March, 2009 for the purpose of the Final Evaluation of the Project on “Teaching Methods Improvement Project Towards Children’s Development in Mongolia” (hereinafter referred to as “the Project”).


During its stay in Mongolia, the Team had a series of discussions with the Mongolian authorities concerned, jointly evaluated the achievements of the Project, and exchanged views for further improvement of the Project.

As a result of the discussions, both sides agreed upon the matters referred to in the document attached hereto.

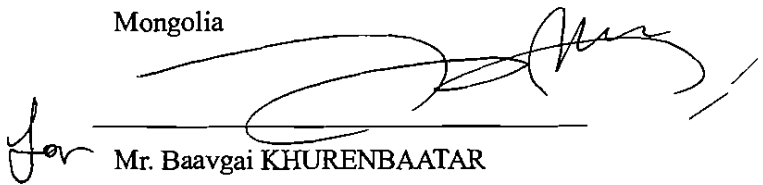
Ulaanbaatar, 19 March 2009



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List of Abbreviations and Acronyms

ADB	Asian Development Bank
DANIDA	Danish International Development Agency
DEC	Department of Education and Culture
GoJ	Government of Japan
GoM	Government of Mongolia
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
MECS	Ministry of Education, Culture and Science
PDM	Project Design Matrix
UB	Ulaanbaatar
UNICEF	United Nations Children's Fund
WG	Working Group

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1. INTRODUCTION

1-1. Preface

The Project was launched in April 2006 and will be completed in July 2009. With the remaining period of the Project, approximately five months, Ministry of Education, Culture and Science (hereinafter referred to as “MECS”) and JICA have both agreed to review the progress and the achievements of the Project. Through the process of evaluation, MECS and JICA can see what have been done so far and what areas require further improvement in order to enhance the outcomes of the Project.

1-2. Outline of the Project

The government of Mongolia (hereinafter referred to as “GoM”) has introduced the new education standards in September 2005 within the framework of education sector reform. The new education standards focused on shifting from 10-year basic education system to 12-year education system, lowering the school entry age from 8 to 6 year-old, and introducing new subjects such as integrated learning, natural science (integrated science) and others. In accordance with the new education standards, the teaching methods have been also expected to change from conventional teacher-centered to student-centered ones. However, at the school level, it has been hard to implement the new education standards because its contents are too academic for classroom teachers to put them into the practice.

To address these challenges, GoM requested the government of Japan (hereinafter referred to as “GoJ”) to assist in the improvement in teaching methods. After a series of discussion and preparatory studies, the GoM and the GoJ agreed in December 2005 to launch “Teaching Methods Improvement Project towards Children’s Development in Mongolia”¹. The expected outcomes of the Project are shown below.

(1) Overall Goal:

Teaching methods which support children's development (“the Teaching Methods”) are disseminated in model Aimags and City.

(2) Project Purpose:

The Teaching Methods are developed in accordance with the new educational standards introduced in primary and lower secondary education.

(3) Outputs of the Project:

1. The Teaching Methods are studied and developed in Mongolian context.
2. Developed Teaching Methods are examined by Aimag/City supervisors and teachers, so that the teaching methods are applicable in local school conditions.
3. The examined Teaching Methods are improved through trial lessons in model schools, so that the teaching methods are more applicable in local school conditions.

¹ It was agreed that dissemination of teaching methods to be developed by the Project was not included in the scope of the work of the Project.

4. Monitoring model is developed and practiced to see introduction and continuous practice of the Teaching Methods.

The Project started in April 2006 and has been implemented by MECS in collaboration with Institute of Education, the Teaching Methods Improvement Centers of Elementary Education, Mathematics Education and IT Education in Mongolian State University of Education, the Teaching Methods Improvement Center of Science Education (hereinafter referred to as “the Four Center”), and Department of Education Center (hereinafter referred to as “DEC”) of Ulaanbaatar (hereinafter referred to as “UB”) City, Selenge Aimag and Dornod Aimag.

1-3. Objectives of the Evaluation

The main objectives of the evaluation were as follows:

- 1) To review the achievements and assess the major outcomes of the Project according to the PDM (hereinafter referred to as “PDM”);
- 2) To evaluate the Project according to the five evaluation criteria, namely, relevance, efficiency, effectiveness, impact and sustainability;
- 3) To recommend further actions to be taken for successful completion of the Project by the end of July 2009 as well as measures to be taken after the Project period;
- 4) To draw lessons from the results of evaluation that will contribute to improving similar projects; and
- 5) To share basic understandings about the future collaboration between MECS and JICA in the field of education.

1-4. Joint Evaluation Team

The evaluation was conducted jointly by the Mongolian side and the Japanese side consisting of the following members.

Mongolian side

Ms. N.NERGUI Department of Primary and Secondary Education, Ministry of Education, Culture and Science

Japanese side

Mr. Atsushi MATACHI	Team Leader
Ms. Sumiko ASANO	Cooperation Planning 1
Mr. Kiyotaka MIYAZAKI	Cooperation Planning 2
Ms. Purevsuren ENKHZAYA	Cooperation Planning 3
Ms. Toshiko SHIMADA	Evaluation Analysis

1-5. Schedule of the Study

JICA dispatched the Team to Mongolia from 2 to 20 March 2009. For details, refer to ANNEX1.

1-6 Methodology of Evaluation

The Team assessed the Project by using the Project Cycle Management methodology defined in the JICA Guidelines for Project Evaluation (2004). The procedures for the final evaluation were as follows:

- 1) First of all, the Team examined the degree and prospects of accomplishment of the Project by comparing the revised PDM (See ANNEX 2) with the outcomes of the Project.
- 2) Secondly, the implementation process was examined through reviewing the Project reports and documents, and conducting a questionnaire survey and interviews with the stakeholders of the Project, and making class observations in model schools and non-model schools.
- 3) Thirdly, the Project was evaluated as per the five evaluation criteria presented below:

Relevance

Relevance of the Project was reviewed in terms of the validity of the Project purpose and the overall goal in connection with the development policy of the GoM, aid policies of the GoJ, needs of beneficiaries, and by logical consistency of the Project plan.

Effectiveness

Effectiveness was assessed by evaluating the extent to which the Project had achieved its purpose and by clarifying the relationship between the purpose and outputs.

Efficiency

Efficiency of the Project implementation was analyzed with emphasis on the relationship between outputs and inputs in terms of timing, quality and quantity of inputs.

Impact

Impact of the Project was assessed on the basis of both positive and negative influences caused by the Project.

Sustainability

Sustainability of the Project was assessed in terms of political, institutional, financial and technical aspects by examining the extent to which the achievements of the Project would be sustained or expanded after the Project period.

- 4) Finally, the Team made a conclusion based on the results of evaluation analysis. At the same time, the recommendations for the Project were made and the lessons learned from the Project were drawn.

2. EVALUATION

2-1. Achievements of the Project

2-1-1 Outputs

With the efforts of both Mongolian and Japanese sides, most of the Outputs have been achieved or almost achieved, which will contribute to the attainment of the Project Purpose. The status

of the attainment of each Output is as follows (See the details in ANNEX 3):

Output 1: *The Teaching Methods which support children's development (hereinafter referred to as "the Teaching Methods") are studied and developed in the Mongolian context.*

Twenty four (24) draft Teacher's Guidebooks for eight subjects were developed by WGs as planned. According to the results of the Questionnaire Survey conducted by local consultants prior to the final evaluation (hereinafter referred to as "the Questionnaire Survey"), over 90% of the model schools and the model Aimag/City supervisors considered that the Teacher's Guidebooks were easily understandable and consistent with the new education standards and school environment. 53% of them said that the Teaching Methods could be employed after reading the Teacher's Guidebooks without any guidance. In the process of development of these Guidebooks, the members of WGs, particularly the university teachers took the lead in studying and analyzing the teaching methods and the teacher's guidebooks being employed in schools of Japan and worked on modifying them in the context of education policies and Mongolia.

The Manual on Teacher's Guidebook Development was being compiled at the time of the final evaluation, and expected to be completed by the end of the Project.

Output 2: *Developed Teaching Methods are examined by Aimag/City supervisors and teachers, so that the teaching methods are applicable in local school conditions.*

Fifteen (15) training, meetings, and workshops have been organized by the Project, in which the university teachers, model Aimag/City supervisors and the model schools actively participated and acquired the knowledge and skills of the Teacher's Guidebooks and the Teaching Methods.

According to the results of the Questionnaire Survey, eight out of 12 Aimag/City supervisors who were involved in the Project (66.7%) were satisfied with the process of development of the Teacher's Guidebooks. The interview conducted by the Team also revealed that most of them had been satisfied with it particularly in the third year after their comments on the Teacher's Guidebooks were reflected and adopted by each WG.

Output 3: *The examined Teaching Methods are improved through trial lessons in model schools, so that the teaching methods are more applicable in local school conditions.*

The trial lessons have been conducted by the pilot teachers of nine model schools in UB City, Selenge Aimag and Dornod Aimag. The average executing rate of trial lessons in model schools, which is the percentage of classes conducting trial lessons as planned, was 69% (See the details in

ANNEX 6). Some changes in lessons were reported by the pilot teachers after employing the Teaching Methods. They include: 1) less talking by teachers; 2) more participation by children; 3) more patience of teachers in waiting for children's reply; 4) encouraging children to express their own ideas; and 5) more linkage between lessons and real life situations.

According to the results of the Questionnaire Survey, 96% of pilot teachers were satisfied with the process of development of the Teacher's Guidebooks. Most of them said that they had fed back their comments and suggestions on the draft Teacher's Guidebooks to make them less academic and more adaptable to school environment and children's stage of development.

Output 4: *Monitoring model is developed and practiced to see introduction and continuous practice of the Teaching Methods.*

The monitoring has been conducted to improve the quality of the draft Teacher's Guidebooks by collecting the feedback from model schools. It also contributed to enhancing the quality of the lessons and strengthening the capacities of teachers. The average executing rate of monitoring activities, which is the percentage of the number of trial lessons monitored compared with the number of trial lessons conducted, was 68%.

The monitoring WG has taken the initiative in revising the monitoring forms based on the feedback from model schools and Aimag/City supervisors. The Monitoring Manual focusing on improvement of lessons was being finalized at the time of the final evaluation, and expected to be completed by the end of the Project.

2-1-2. Project Purpose

Project Purpose: *Teaching Methods are developed in accordance with the new education standards introduced in primary and lower secondary education.*

By the end of the Project, 24 Teacher's Guidebooks for eight subjects in total and eight DVDs which present how to use the Teaching Methods in lessons are to be completed. In order to ensure the quality of Teacher's Guidebooks, all the Teacher's Guidebooks have been examined by the external experts.

According to the interviews conducted by the Team, most of the pilot teachers had improved their teaching methods through the Project activities. As indicated in the results of the Questionnaire Survey, 93% of the pilot teachers of model schools applied the Teaching Methods even in non-trial lessons. The interviews with model schools also revealed that some of the non-pilot teachers had been aware of the effectiveness of the Teaching Methods by observing of trial lessons and participating in lessons analyses, which enabled them to practice these methods in their lessons.

Some positive changes of children's attitude towards lessons were observed in the model schools. They include: 1) more expressing their own opinions; 2) more active participation in lessons;

3) conducting more experiments and observations; and 4) being more motivated to study.

2-1-3. Overall Goal

Overall Goal: *The Teaching Methods are disseminated in model Aimags and City.*

According to the questionnaire data collected and interviews conducted by the Team, the Teaching Methods to non-model schools has been gradually disseminated in the three model Aimags/City through training, trail lessons, open lessons and lesson analyses. According to the Questionnaire Survey conducted in 15 non-model schools sampled in model Aimags/City, 98 out of 157 teachers (62%) had read the Teacher's Guidebooks all or part of it. However, in order to enable teachers in non-model schools to employ the Teaching Methods in lessons, individual efforts of some motivated pilot teachers of model schools and some Aimag/City supervisors alone seem to be not enough. Considering the fact that the Teaching Methods are far from the conventional ones, it seems to be difficult for teachers to acquire skills and knowledge of the Teaching Methods only by attending one or two-day existing in-service teacher training. Thus, both a concrete dissemination strategy and an effective mechanism need to be developed and strengthened by MECS in collaboration with DEC's of model Aimags/City, the concerned universities, model schools and other relevant organizations.

2-1-4. Super Goal

Super Goal: *Teaching Methods which support children's development are disseminated in the country.*

With the funds available from JICA and MECS (ADB loan), one set of Teacher's Guidebooks developed in the first year and the second year has already been distributed to all schools in the country. For the information dissemination of these Guidebooks, the Project has issued and distributed the newsletters not only to model schools but also non-model schools. Also, MECS and JICA organized the two-day training for Aimag/City supervisors and university teachers of the teacher's colleges in January 2009 and introduced the Teacher's Guidebooks and the Teaching Methods developed by the Project.

According to the results of the Questionnaire Survey conducted in the three sampled non-model Aimags, 95 out of 163 teachers (58%) had read all or part of the Guidebooks. Seventeen out of 21 Aimag supervisors also responded that they had read all or part of these Guidebooks. Sixty eight out of 163 teachers and 4 Aimag supervisors did not read them. It can be assumed that the Teacher's Guidebooks are not known widely and readily available to read for all Aimag/City supervisors and classroom teachers.

Several Orders of the Minister issued by MECS during the implementation of the Project are expected to serve as the basis for sustaining and expanding the effects of the Project. However, for the dissemination of the Teaching Methods throughout the country, an enabling environment needs to be

created and strengthened by MECS from the policy and institution, financial, organizational and technical aspects in collaboration with DEC, universities, schools, other relevant organizations and development partners.

2-2. Results of the Evaluation

2-2-1. Implementation Process

As most of the core counterparts have had a strong sense of ownership and responsibility of the Project, most of the planned activities have been smoothly carried out. The communication and relationship among three actors, i.e., university teachers, model Aimag/City supervisors, and model schools have been improved, particularly in the third year in the process of development of the Teacher’s Guidebooks.

Overall, the transfer of knowledge and skills has been successfully undertaken from the Japanese experts to the counterparts. The Japanese experts provided their Mongolian counterparts with appropriate knowledge and skills every year, i.e., lesson study (jugyou kenkyu), analyses of teaching materials (kyozai kenkyu), and child development to stimulate the counterparts' motivation for learning. The training in Japan also helped the participants acquire the practical expertise on the Teaching Methods employed by classroom teachers in Japan. These practical knowledge and skills that Mongolian counterparts have learned in Japan were also shared with other counterparts who did not participate in this training, which also deepened their understanding of the Teaching Methods.

It should be noted that the Project has strived to address the issues pointed out by the Mid-term Evaluation Team, including the necessity of clarifying the roles and responsibilities of monitoring WG and of more active involvement of model Aimag/City supervisors into the Project activities.

2-2-2. Evaluation by Five Criteria

Results of the evaluation by five criteria are summarized below.

Criteria	Evaluation Result	Description
Relevance	Very High	<ul style="list-style-type: none"> ● The Project is consistent with the new education standards, the Mater Plan of the Education Sector and the aid policy of the Japanese Government. ● The Project has responded to the needs of teachers in model Aimag/City by developing the Teacher’s Guidebooks which describe the details of the Teaching Methods in lessons. ● The Project put an emphasis on the process of development of the Teacher’s Guidebooks in which the three different actors, namely, university teachers, Aimag/City supervisors, and model

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		<p>schools worked collaboratively. This approach seems to be appropriate since it contributed to enabling them to acquire the practical skills and knowledge and developing the Teaching Methods which would meet the reality of schools.</p> <ul style="list-style-type: none"> ● Since the nine model schools were selected from urban and rural areas in three Aimags/City, and also from well-equipped complex schools and non-well-equipped ones in urban areas to develop the Teaching Methods, the Teacher's Guidebooks are expected to be applicable to all schools in Mongolia.
Effectiveness	High	<ul style="list-style-type: none"> ● The achievement of all four Outputs is expected to contribute to the attainment of the Project purpose. ● The collaboration of the three different actors who had learned one another to pursue their common goals of the development of the Teacher's Guidebooks contributed to enhancing the effectiveness of the Project. ● Another contributing factor is that the Japanese experts who have extensive experience in the field of education imparted the new skills and knowledge of the Teaching Methods from the diversified perspectives to counterparts. This has highly motivated counterparts to be involved in the Project activities and make the maximum use of learning opportunities in the Project.
Efficiency	High	<ul style="list-style-type: none"> ● Although some of the inputs such as transportation costs to attend trial lessons were not provided by the Mongolian side as agreed, the inputs from both sides and planned activities have been all contributing to producing the outputs. ● Especially, the training in Japan, which is directly linked with the Project activities, contributed to smoothly producing the Output 1. This design enabled the participants to learn practical skills and knowledge of the Teaching Methods employed in Japan from local schools, teachers and the Japanese experts.
Impact	Moderately high	<ul style="list-style-type: none"> ● The funds availability of ADB loan from MECS allowed the Project to distribute one set of the Teacher's Guidebooks developed in the first year and second year to all schools in the country. ● The dissemination of the Teaching Methods to non-model schools has been gradually in place in three model Aimags/City through the existing in-service teacher training, open lessons,

		<p>meetings and other training.</p> <ul style="list-style-type: none"> ● Unexpected impacts have been observed; for example the dissemination of the Teaching Methods in pre-service teacher training courses in the teacher's colleges; the issue of several Orders of Minister that are expected to provide teachers with incentives to improve their teaching skills and to more actively interact with children; and the active interaction between the children of model schools and their parents at home. ● DEC's are expected to play a key role of disseminating the Teaching Methods. Considering the fact that the Teaching Methods differ from conventional ones, the existing in-service training alone seems insufficient for further dissemination of the Teaching Methods to non-model schools. Also, if there is a possibility of a major budget squeeze of DEC's due to the financial crisis, it is not so easy for DEC's to launch new programs related to the dissemination of the Teaching Methods. ● At the final evaluation, it is too early to say that the Overall Goal and the Super Goal would be achieved, though some positive impacts have been confirmed.
Sustainability	<p>Moderately high</p> <p>-Policy: High -Technical: High -Organizational: Moderately High -Institutional: Moderately low -Financial: Medium</p>	<ul style="list-style-type: none"> ● There will be no major changes in the direction of the new education standards. During the Project period, several Orders of the Minister that are expected to sustain the effects of the Project were issued by MECS. They include: 1) a new system for performance evaluation of teachers in accordance with the new education standards; 2) a new framework for in-service training of teachers; and 3) a new system for obtaining professional qualifications of teachers. ● In terms of the technical aspect, most of the Project stakeholders have acquired the skills and knowledge of the Teaching Methods and are likely to employ them in their daily work. The Manual on Teacher's Guidebook Development to be developed and published by the end of the Project will help to sustain the know-how for developing Teacher's Guidebooks. ● The WGs have played an important role in the development of the Teacher's Guidebooks under the Project. It is not clear yet that the WGs will continue to work collectively after the completion of the Project. However, at least so far, the Project stakeholders have had the strong willingness to sustain the

effects of the Project regardless of continuation of WGs. Thus, there will be a possibility that project stakeholders can be involved in the development, dissemination and practice of the Teaching Methods in their own organizations.

- For further dissemination of the Teaching Methods developed by the Project, individual efforts of some motivated pilot teachers and some Aimag/City supervisors alone is not enough. An effective mechanism should be developed and strengthened to enable top officials of DEC, Aimag/City supervisors who were not involved in the Project, and principals and managers of non-model schools to understand the importance and necessity of the Teaching Methods and assist teachers in employing these methods in lessons.
- Considering the fact that the amount of the budget of the Four Centers, the DEC, and the model schools is not adequately secured, these actors are less likely to accelerate the dissemination of the effects of the Project without any external assistance. In addition, if the financial crisis adversely affects MECS, it may be difficult to allocate the additional budget for promotion of the Teaching Methods. More internal efforts and closer collaboration with development partners are necessary to sustain and extend the effects and impacts of the Project.

3. CONCLUSION

In accordance with the new education standards introduced in 2005, the classroom teachers were required to teach new subjects such as general science and integrated learning and employ the teaching methods which support children's development. The Project has rightly responded to the priorities of the Mongolian education policy and needs of classroom teachers. Japan has much experiences and know-how of the teaching methods that enable children to construct and acquire knowledge by themselves. Thus, the Project has taken full advantage of these previous experiences and lessons learned. Overall, the relevance of the Project is very high.

The three different actors, namely university teachers, model Aimag/City supervisors and teachers of model schools have been directly involved in developing these Teacher's Guidebooks. It was a first attempt of this kind at involving not only university teachers but also classroom teachers and Aimag/City supervisors in the development of the Teacher's Guidebooks. With the technical assistance from the Japanese experts who have extensive knowledge and experiences in the field of education, these three actors took the lead in a series of activities such as developing a draft of the Teacher's Guidebooks, undertaking trial lessons and lesson analyses to get feedback for improvement,

and revising the Guidebooks. Such collaboration among the three different actors with the effective technical assistance from the Japanese experts helped to ensure the quality of the Teacher's Guidebooks that would be more applicable to all schools in the country. Thus, the effectiveness of the Project can be assessed as high.

Although some of the inputs were not provided from the Mongolian side as agreed, the majority of activities have been carried out smoothly without any major disturbance. Especially, the training in Japan contributed to the smooth implementation of the Project since the training was organized by the Japanese experts who were directly involved in the Project activities in Mongolia, which enabled counterparts to acquire and upgrade the skills and knowledge of the Teaching Methods efficiently and effectively. Thus, the Project has a high degree of efficiency as a whole.

The funds available from ADB loan for MECS allowed the Project to distribute one set of the Teacher's Guidebooks to all schools in the country. In the three model Aimags/City, the model schools and motivated Aimag/City supervisors have gradually disseminated the Teaching Methods to non-model schools. Other positive and unexpected impacts have been also confirmed such as the issue of several Orders of Minister that are expected to sustain the effects of the Project. However, considering the fact that acquiring the skills and knowledge of Teaching Methods is more than just understanding just what are meant, it is assumed that the existing in-service teacher training system alone is not sufficient for further dissemination of the Teaching Methods. Therefore, the degree of the impact of the Project has been assessed as moderately high.

There will be no major changes in the direction of the new education standards. Further, the new policies regarding performance evaluation of teachers, in-service training of teachers and professional qualification of teachers are expected to serve as the basis for sustaining the Teaching Methods developed by the Project. The knowledge and skills of the Teaching Methods are likely to be sustained by the Project stakeholders in each workplace since they have the adequate capacities and the strong willingness to continue to utilize the effects of the Project regardless of WGs. However, for further dissemination of the Teaching Methods, individual efforts of some motivated pilot teachers and some Aimag/City supervisors alone is not enough, but a more effective mechanism should be established and strengthened. If the budget of MECS needs to be considerably reduced due to the financial crisis, it may be difficult to allocate the additional budget. More importantly, it is necessary to secure the adequate amount of the budget to expand the effects of the Project through internal efforts and closer collaboration with development partners. Judging from these aspects, the prospect of the sustainability of the Project can be assessed as moderately high at the time of the final evaluation.

4. RECCOMENDATIONS

The Team has judged that the Project purpose is expected to be achieved by the end of the Project period. The Team has recognized that the following two issues need to be addressed: how to sustain the outcomes and activities of the Project; and how to disseminate the outcomes of the Project, namely, the Teaching Methods.

Below are recommendations not only for sustaining the activities of the Project, but

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also for disseminating the Teaching Methods nationwide.

4-1. Actions to be Taken by the End of the Project Period

4-1-1. Developing an Action Plan to be Implemented after the End of the Project

It is necessary to discuss the direction of the Project after the Project period and to develop a plan as to how to sustain and strengthen the outcomes of the Project. It is recommended that the plan include the following two issues: how to sustain the Project activities; and how to disseminate the outcomes of the Project, namely, the Teaching Methods.

(1) Measures for sustaining the project activities

In terms of the sustainability of the Project, at first, it is necessary to discuss and decide which activities should be sustained. Considering that the eight subject WGs, which have played the important role in the Project, are not independent bodies, but inter-organizational bodies, it may be difficult for the WGs to perform their functions as they currently do in the Project. Major activities of the Project will have to be implemented on a voluntary basis. Thus, it is important to decide which activities in the Project to be sustained as well as how they are to be implemented.

In particular, it is felt that some structures should be in place at Aimag/City DEC's and schools in order to sustain lesson study at school level. For instance, the Team suggests considering the following issues.

- (a) Strengthening the capacity of principals and vice principals to support lesson study at school level:** As the support by principals and involvement of vice principals are essential at school level to organize lesson study, they need to be equipped with basic skills and knowledge of the Teaching Methods. Hence, the principals and vice principals need to be trained with guidebooks on the Teaching Methods, lesson study and lesson monitoring to equip them with these knowledge and skills.
- (b) Strengthening the capacity of Aimag/City supervisors:** It is felt that Aimag/City supervisors need to play the role to assist principals and vice principals in conducting lesson study and open lessons. In order for Aimag/City supervisors to play such a role, they need to be equipped with skills and knowledge of the Teaching Methods and lesson study including lesson observation skills. Thus, it is recommended that knowledge of Aimag/City supervisors for the Teaching Methods be updated and strengthened regularly.

(2) Measures for disseminating the Teaching Methods

Another priority should be given to the dissemination of the Teaching Methods to non-model schools. In order for the distributed Teacher's Guidebooks to be utilized at school level, schools and teachers need to be supported by Aimags/City in terms of the technical, financial and administrative aspects. Thus, more involvement of Aimag/City DEC's will be needed for the dissemination of the Teaching Methods. To this end, it is recommended to address the following issues.

- (a) Advocacy of the Teaching Methods:** The Teaching Methods should be made more widely known by all stakeholders in the education sector in Mongolia. The following are suggested for the advocacy of the Methods:

- i) Developing a guidebook that briefs the Teaching Methods and positive outcomes of the Project;
 - ii) Conducting open lessons by the model schools; and
 - iii) Making full use of the Education Channel
- (b) Strengthening the capacity of Aimag/City DEC's to support the dissemination of the Teaching Methods:** Aimag/City DEC's are expected to play an active role in disseminating the Teaching Methods to non-model schools. In order to involve the DEC's more actively in the dissemination process, the following be considered:
- i) Sensitization of the administrators such as superintendents; and
 - ii) Strengthening the capacity of Aimag/City supervisors to provide advice to principals and vice principals on the Teaching Methods as well as how to organize lesson study at school level.
- (c) Strengthening the capacity of school administrators to support lesson study:** In order to disseminate the Teaching Methods to non-model schools, school administrators, i.e., school principals and vice principals, need to be sensitized with the Teaching Methods so that they can promote the dissemination of the Methods to classroom teachers. They are also expected to organize lesson study at schools. Hence, the following are suggested:
- i) Distribution of the Monitoring Manual; and
 - ii) Training for principals, vice principals for lesson study.
- (d) Creating forums and opportunities for teachers to share their practices:** It is recommended to create forums and opportunities for teachers to share their practices on the Teaching Methods such as conducting open lessons and publishing journals for teachers, supervisors and university teachers to write share their experiences. Such opportunities are also expected to provide incentives to practice and improve their teaching skills .

4-1-2. Making the most of the results of the End-line survey

- (1) Results of the End-line survey to be conducted should be analyzed and utilized to discuss the future plan of the Project.
- (2) The results should also be utilized for advocacy and sensitization as explained in 1-1 (2) (a) above.

4-2. Activities to be Taken in the Short-term (within 1-2 year) after the Project Period

4-2-1. Carrying out organizational and institutional arrangements necessary to support and implement the activities identified in 1-1 above

4-2-2. Implementing the activities identified in 1-1 above

4-3. Activities to be Implemented in the Mid/Long-term (3-10 years) after the Project Period

4-3-1. Policy formulation and implementation in accordance with the Teaching Methods

It is necessary to provide classroom teachers with incentives to practice the Teaching Methods, for

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instance, by formulating appropriate policies. For example, the following areas are suggested to be looked into:

(1) Curriculum and textbooks

The Teaching Methods may require teachers to use longer time for conducting lessons as the Methods must allow children to construct knowledge by themselves. Hence, curricula and textbooks need to be examined to reduce the amount of knowledge and concepts to be taught.

(2) Assessment of teachers

In order for principals and vice principals to assess teachers in their schools properly in accordance with the new education standards, they must be familiar with the Teaching Methods. For this reason, they need to be trained in the skills and knowledge of the Teaching Methods.

(3) Assessment of children

Assessments of children including examinations need to be conducted in accordance with the Teaching Methods. For example, examinations should be set to be able to assess the skills and knowledge of children that are expected to be developed by the Teaching Methods. Hence, those teachers who prepare examinations need to be equipped with skills and knowledge of developing examinations that can properly assess the competencies that are stipulated in the new education standards.

5. LESSON LEARNED

5-1. Collaboration of university teachers with classroom teachers

The approach adopted by the Project where university teachers and classroom teachers on the ground work together, seemed to be highly effective because the university teachers were able to understand the actual needs of classroom teachers and children on the ground. The knowledge they have acquired in the process has been improving the quality of pre-service in the universities.

In addition, as some of the university teachers are involved in the curriculum reform and textbook writing, the knowledge about the Teaching Methods that they have acquired through the project are also expected to be reflected in the curricula and textbooks in Mongolia in the long run.

5-2. Inter-linkage of the project activities in Mongolia and Japan

Since the training in Japan was planned and conducted by the Japanese experts who were involved in the Project activities in Mongolia, the training was well coordinated with the Project activities in Mongolia. This contributed to enhancing the effectiveness of the Project.

5-3. Necessity of making use of the Base-line and End-line surveys for project monitoring

- (1) The data collected for the Base-line survey and the End-line survey should have been better utilized to monitor the progress of the Project. Although the Project conducted a comprehensive Base-line survey in the three Aimags/City, it seems that those data were not well utilized to monitor the progress and to evaluate the effectiveness of the Project.
- (2) Indicators of the PDM should have target values. If the decision was made not to set the target values for the indicators, the decisions and reasons should have been recorded in the official documents such as JCC minutes.

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ANNEXES

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ANNEX 2. Project Design Matrix

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- 3-2. Process of Project Implementation
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ANNEX 4. Inputs to the Project

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- 4-2. List of Participants to Counterpart Training in Japan
- 4-3. List of Equipment Provided under the Project
- 4-4. Counterparts List
- 4-5. Working Group Members List

ANNEX 5. List of the Teachers' Guidebooks developed in the Project

ANNEX 6. List of training and meetings conducted by the Project

ANNEX 7. Average executing rate of trial lessons and monitoring

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ANNEX 1. Evaluation Team Schedule

	Date	Day	Mr. MATACHI/ Ms. ASANO	Ms. SHIMADA	Mongolian Side Ms.N. Nergui
1	2-Mar	Mon		Tokyo→UB	
2	3-Mar	Tue		Interviews and Date Collection from WGs 09:00 (Chemistry) 、 10:00 (Math) 、 11:00(Monitoring) 14:00 (Integrated Study) 、 15:00 (Elementary Math) 、 16:00 (Physics) 、 17:00 (Elementary Science)	
3	4-Mar	Wed		09:30 Class observation and data collection from No. 45 School(model school) in UB 14:00 Interview and date collection from WG (IT Education) 15:30 UB→Selenge	
4	5-Mar	Thu		09:30 Courtesy Call to Selenge DEC 14:00 Class observation and data collection from No.4 school and No.1 school(model schools) in Selenge	
5	6-Mar	Fri		07:00 Selenge → Darhan Class observation and data collection from No.9 School (non-model school) PM: Darhan→UB	
6	7-Mar	Sat		Documentation	
7	8-Mar	Sun	Tokyo→UB	Documentation	
9	9-Mar	Mon		09:30 Interviews and data collection from Mongolian State University of Education 10:30 Interviews and data collection from National University of Mongolia 12:15 Courtesy Call to Ministry of Finance 15:30 Courtesy Call to JICA Mongolia Office	
10	10-Mar	Tue		09:30 Interviews and data collection from Education and Science Department of the City of UB (Superintendent and Supervisors) 13:00 UB→Dornod 14:30 Class observation and data collection from No.5 school(model school)	
11	11-Mar	Wed		Class observation and data collection from Matad Sum School (model school)	
8	12-Mar	Thu		09:30 Class observation and data collection from Khan-uul School (model school) 14:30 Class observation and data collection from No. 12 School (non-model school)	
12	13-Mar	Fri		09:30 Class observation and data collection from Shine-hugjil School (non-model school) 15:00 Dornod→UB 17:00 Interview and data collection from Dr. J.Narantuya (Institute of Education)	
13	14-Mar	Sat		Documentation	
14	15-Mar	Sun		Documentation	
15	16-Mar	Mon		10:00 Class observation and data collection from non-model school in UB 15:30 Meeting with Ms.N. Nergui (MECS) and Japanese experts	
16	17-Mar	Tue		10:00 Interview to Vice Minister, MECS 15:00 JCC meeting	
17	18-Mar	Wed		15:00 Report to Embassy of Japan	
18	19-Mar	Thu		11:00 Meeting with ADB 14:00 Minutes signing 16:00 Report to JICA Mongolia office 17:00 Interview to Director the Department of the Primary and Secondary Education , MECS	
19	20-Mar	Fri		UB→Tokyo	

ANNEX 2. Project Design Matrix(PDM)

Project Name: Teaching Methods Improvement Project towards Children's Development in Mongolia
 Model Aimag/City: UB, Dornod and Selenge

Model Schools: No.45, No.97, Segemji school(UB), No.1, No.4, Khushaat Sum school(Selenge), Khan-utul, No.3, Matad Sum School (Dornod)

Duration: April 1, 2006 ~ July 31, 2009
 Target Group: University Teachers in Education field, Aimag Supervisors, Elementary and Lower Secondary School Teachers and Children
 Implementing Agencies: MECS, Elementary Education Improvement Center, Mathematics Education Improvement center, IT Education Improvement center and Science Education Improvement center, Institute of Education

ANNEX 2

Version: No.3
 Date: July 9, 2008

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Super Goal	Teaching methods which support children's development ("the Teaching Methods") are disseminated in the country.		Education sector strategy will not change by the new regime established after general election held in 2008.
Overall Goal	The Teaching Methods are disseminated in the model Aimag/City.	<ul style="list-style-type: none"> Questionnaire survey Interview survey and lesson observation in non model schools in the model Aimag 	
Project Purpose	Teaching Methods are developed in accordance with the new education standards introduced in primary and lower secondary education.	<ul style="list-style-type: none"> Developed teacher's Guidebooks are distributed and utilized/read in 100% of teachers in the model Aimag/City. The Teaching Methods are practiced in 70% of teachers in the model Aimag/City. 	MECS supports the Teaching Methods and its dissemination.
Outputs	1. The Teaching Methods are studied and developed in Mongolian context.	<ul style="list-style-type: none"> Developed Teacher's Guidebooks Manual on Teacher's Guidebook Development 	
2	Developed Teaching Methods are examined by Aimag/City supervisors and teachers, so that the teaching methods are applicable in local school conditions	<ul style="list-style-type: none"> Activity Reports Questionnaire survey Interview with the Aimag supervisors 	The Teaching Methods are continuously developed by Working Group.
3	The examined Teaching Methods are improved through trial lessons in model schools, so that the teaching methods are more applicable in local school conditions	<ul style="list-style-type: none"> Activity Reports Questionnaire survey Interview with the trial lesson teachers 	Four Centers perform important roles in Teaching Methods development.
4	Monitoring model is developed and practiced to see introduction and continuous practice of the Teaching Methods.	<ul style="list-style-type: none"> Activity Reports Draft Monitoring Manual 	
Activities	<ul style="list-style-type: none"> 1-1 A study is conducted in the model Aimag/City to identify the needs in the field of teaching methods and teachers' evaluation. 1-2 Four centers study the Teaching Methods and develop guidebooks/guiding materials for selected units with participation of appropriate stakeholders including the staff of Institute of Education, Aimag/City supervisors and school teachers. 1-3 Four center members and Aimag/City supervisors participate in training program in Japan to develop guidebooks/guiding materials based on the Teaching Methods. 	<ul style="list-style-type: none"> Questionnaire survey Interview with the trial lesson teachers Activity Reports Draft Monitoring Manual 	

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1-4	Working groups* analyze the results of Activity 2-1 and the reports of Activities 3-5, 4-5 below and further improve the guidebooks/guiding materials.	Management cost (Workshops, transportation, utilities, salary, etc)	Teaching Methods (concurrent with one of the following subjects) - Science Education - Mathematics Education - Integrated Study - IT Education Counterpart Training Facilities and Equipment Management cost
1-5	Mongolian Project Coordinators, Working Groups and Japanese Project Team jointly develop the Manual on Teacher's Guidebooks development.		
1-6	Four centers introduce the concepts and the practices of the Teaching Methods to teacher training courses in the respective universities.		
1-7	Project team** conducts publicity activities including news letters and website about the Project.		
2-1	Working Groups and Departments of Education and Culture in model Aimag/City ("Aimag/City DECs") organize workshops to examine the developed guidebooks/guiding materials, so that they are applicable in local school conditions.		
2-2	Working Groups and Aimag/City DECs organize training courses for teachers to introduce the guidebooks/guiding materials which produced in 2-1.		
3-1	Model Schools are selected.		
3-2	Model School managers develop favorable environment for introducing the Teaching Methods (including positive understanding by teachers and parents) and assure a room for teachers' activities.		
3-3	Teachers who attended the workshops and training courses mentioned in 2-1 and 2-2 introduce and practice the Teaching Methods at classes and transfer his/her knowledge and information to other teachers.		
3-4	Lesson analyses are conducted in Model Schools		
3-5	Model Schools report the results of the lesson analyses described in 3-4 to Working Groups through Aimag/City DECs.		
3-6	Model Schools organize an "Open Lessons" to introduce their activities of practicing the Teaching Methods to other school teachers and parents.		
3-7	Project Team publicize the best practices of the Teaching Methods by Model schools and teachers.		
4-1	Working Groups study monitoring methods and produces monitoring forms which can follow up the application of the Teaching Methods at Model Schools		
4-2	Working Groups and Aimag/City DECs organize workshops to examine the monitoring methods and monitoring forms, so that they are applicable in local school conditions.		
4-3	Baseline survey is conducted to assess the performance of teachers and children in Model Schools.		
4-4	Model School managers conduct monitoring of teachers' and children's performance at the schools in accordance with the developed monitoring methods		
4-5	Model School managers report the monitoring results(4-4) to Working Groups through Aimag/City DECs.		
4-6	Working Groups develop monitoring manual based on the report of 4-5.		
4-7	Endline survey is conducted to identify the changes of the performance of teachers and children in Model Schools.		

*There are eight Working Groups, namely Physics, Chemistry, Primary Science, General Science, Mathematics, Primary Mathematics, IT and Integrated Studies. The Working Group members consist of four center members, Aimag supervisors and model school teachers.

**Project Team consists of MECS, Institute of Education, 8 Working Groups, Aimag DECs.

ANNEX 3. Evaluation Grid

3-1 Achievement of the Project

ANNEX 3-1

Evaluation Item	Narrative Summary	Indicators in PDM Version 3	Data Needed	Achievement
1	<p>The extent of achievement or the prospect of achievement of Super Goal "Teaching methods which support children's development ("the Teaching Methods") are disseminated in the country"</p>		<ul style="list-style-type: none"> -MECS' views about extension of the Teaching Methods including planning, budgeting, institutional arrangement -Counterparts' and Japanese experts' views about the prospect of extension of the Teaching Methods in country 	<ol style="list-style-type: none"> 1. One set of Teacher's Guidebooks developed by the Project in the 1st and 2nd year was distributed to all schools in the country with the funds from JICA and MECS (ADB loan). 2. The Project has issued and distributed the Newsletters describing the Teaching Methods and the Teacher's Guidebooks to not only model schools and but also non-model schools. 3. To introduce the Teaching Methods and the Teacher's Guidebooks, JICA and MECS organized the two-day training for Aimag/City supervisors and university teachers of the teacher's colleges in January 2008 as the follow-up program for Strengthening the Planning Capacity for In-service Teacher Training. 4. According to the results of the Questionnaire Survey conducted in three sampled non-model Aimag. 95 out of 163 teachers (58%) had read all or part of the Guidebooks. 17 out of 21 Aimag supervisors also responded that they had read all or part of these Guidebooks. 68 out of 163 teachers and 4 Aimag supervisors did not read them. 5. Several Orders of the Minister issued by MECS during the implementation of the Project are expected to encourage teachers to employ the Teaching Methods in the future. 6. However, in order to disseminate the Teaching Methods throughout the country, the effective dissemination mechanism needs to be developed.
2	<p>1.Developed Teacher's Guidebooks are distributed and utilized (read) in 100% of teachers in the model Aimag/City.</p>	<ul style="list-style-type: none"> -Proportion of sample respondents (teachers, principles and managers in non-model schools) who could read everything, or part of it -Counterparts' and Japanese experts' views about the prospect of extension of the Teaching Methods in model Aimag/City 	<ul style="list-style-type: none"> -Proportion of sample respondents in non-model schools in model Aimag/City who could implement new Teaching Methods -Case examples of dissemination of the Teaching Methods in model schools and implementation of the Teaching Methods in non-model schools -DEC's views about dissemination of the Teaching Methods including planning, budgeting, and institutional arrangement -Counterparts' and Japanese experts' views about the prospect of extension of the Teaching Methods in model Aimag/City 	<ol style="list-style-type: none"> 1. According to the Questionnaire Survey conducted in 15 sampled non-model schools in model Aimag/City, 98 out of 157 teachers (62%) had read the Teacher's Guidebooks all or part of it. On the other hand, 59 teachers (38%) did not read these guidebooks at all.
3	<p>The extent of achievement or the prospect of achievement of Overall Goal "The Teaching Methods are disseminated in the model Aimag/City"</p>	<p>2.The Teaching Methods are practiced in 70% of teachers in the model Aimag/City.</p>	<ul style="list-style-type: none"> -Proportion of sample respondents in non-model schools in model Aimag/City who could implement new Teaching Methods -Case examples of dissemination of the Teaching Methods in model schools and implementation of the Teaching Methods in non-model schools -DEC's views about dissemination of the Teaching Methods including planning, budgeting, and institutional arrangement -Counterparts' and Japanese experts' views about the prospect of extension of the Teaching Methods in model Aimag/City 	<ol style="list-style-type: none"> 1. In model schools, the Teaching Methods have been gradually applied to lessons by non-pilot teachers who were involved in trial lessons and lesson analyses. 2. The Team confirmed that the Teaching Methods have been gradually disseminated to some of non-model schools in the three model Aimag/City. Aimag/City supervisors of Seleng and UB City provided an orientation on the Teaching Methods to teachers in some non-model schools in collaboration with the working groups. In the case of Dornod, Aimag supervisors invited non-model school teachers to observe trial lessons in model schools and attend lesson analyses in a systematic manner. Model schools have also strived to impart skills and knowledge on the Teaching Methods to non-model schools on their own. 3. According to the Questionnaire Survey, 62 out of 96 sampled teachers (63.2%) in 15 non-model schools in model Aimag/City responded that they had implemented new Teaching Methods. 4. Considering the fact that the Teaching Methods are far from the conventional ones, it seems to be difficult for teachers to acquire skills and knowledge of the Teaching Methods only by attending one or two-day existing in-service teacher training. Thus, both a concrete dissemination strategy and an effective mechanism need to be developed and strengthened by MECS in collaboration with DEOs of model Aimag/City, the concerned universities, model schools and other relevant organizations.

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Performance (Project Purpose)	4	<p>The extent of achievement of Project Purpose "Teaching Methods are developed in accordance with the new education standards introduced in primary and lower secondary education"</p>	<p>1. Developed Teacher's Guidebooks</p>	<ul style="list-style-type: none"> • 24 Guidebooks for 8 subjects • Assessment of Guidebooks by sample respondents such as directors, managers, and teachers of non-model schools in model and non-model Aimegs/City. Assessment items includes a) consistency with the New Standard, b) consistency with school environment, c) understandability, and d) possibility to implement the new Teaching Methods after reading the Guidebooks. 	<p>1. In the 1st year and 2nd year, 16 Teacher's Guidebooks in 8 subjects, namely elementary science, general science, chemistry, physics, arithmetic, mathematics, IT education, and integrated learning were developed by 8 working groups.</p> <p>2. All the Teacher's Guidebooks have been examined by the external experts to ensure their quality. At the time of the final evaluation, 8 working groups were incorporating final comments made by external experts into the 3rd-year Guidebooks. By the end of Project, 8 Guidebooks will be completely developed.</p> <p>3. For the dissemination of the Teaching Methods, each working group in collaboration with the Educational Channel has made a DVD which presents how to employ the Teaching Methods in lessons. The DVD will be attached with the Guidebooks to be distributed.</p> <p>4. The results of the Questionnaire Survey present the positive views about the Guidebooks among outsiders of the Project. Over 85% of sample respondents including non-model schools in model Aimegs/City, and supervisors and non-model schools in non-model Aimegs said that the Guidebooks were easy to understand, and consistent with the New Education Standard and school environment. 66.2% of these non-project respondents said that teachers would be able to employ the Teaching Methods after reading the Guidebooks. The rest of respondents said teachers would not be able to employ the Teaching Methods without guidance and training.</p>
Performance (Project Purpose)	5		<p>2. The number of lessons that the Teaching Methods are practiced excluding trial lessons by the Project</p>	<ul style="list-style-type: none"> • Proportion of pilot teachers in model schools who have used the new Teaching Methods in non-trial lessons • Case examples of application of the new Teaching Methods in non-trial lessons 	<p>1. 93% of the pilot teachers responded in the Questionnaire Survey that they have used the new Teaching Methods apart from trial lessons.</p> <p>2. According to the interview to model schools, most of the pilot teachers have improved their teaching methods through fully involvement of the Project. This enables them to employ or modify the teaching methods in other lessons as much as possible. Also, some of the non-pilot teachers have been aware of the effectiveness of the Teaching Methods through observation of trial lessons and participation in lesson analyses and used them in some cases.</p>
Performance (Outputs)	6		<p>3. Change of children's attitude towards lessons</p>	<ul style="list-style-type: none"> • Change of children's attitudes towards lessons stated by sample respondents in the Questionnaire Survey • Case examples of change of children's attitudes towards lessons 	<p>1. The results of the Questionnaire Survey show that pilot teachers, the principals and managers of model schools had the same opinions on the positive changes of children's attitudes towards lessons. They include 1) more expressing their own opinions, 2) more active participation in lessons, 3) conducting experiments and observations and 4) being more motivated to study.</p> <p>2. Apart from the above, many pilot teachers interviewed by the final evaluation team noted that the children have been able to cooperate with one another in a group to answer a problem or perform the tasks in the class.</p>
Performance (Outputs)	7	<p>The extent of achievement of Output 1 "The Teaching Methods are studied and developed in Mongolian context"</p>	<p>1. Developed Teacher's Guidebooks</p>	<ul style="list-style-type: none"> • 24 Draft Guidebooks for 8 subjects • Assessment of Guidebooks by project stakeholders. Assessment items includes a) consistency with the New Standard, b) consistency with school environment, c) understandability, and d) possibility to implement the new Teaching Methods after reading the Guidebooks. • Overall process of development of Guidebooks by project stakeholders 	<p>1. Twenty-four (24) Draft Teacher's Guidebooks for 8 subjects were developed by working groups as scheduled.</p> <p>2. According to the project stakeholders such as model schools and supervisors who have been involved in project activities, over 90% of them considered that the Teacher's Guidebooks were easily understandable and consistent with the New Standard and school environment. 53% of them said that the Teaching Methods could be employed after reading the Guidebooks without any guidance.</p> <p>3. Regarding the contents of the Teacher's Guidebooks, the similar views were reported by the university teachers who are members of working groups and the Japanese Experts. The members of working groups took the lead in studying and analyzing the teaching methods and the teacher's guidebooks being utilized in Japan and worked on modifying them in the context of Mongolia. As a result, the content of Guidebooks has been easy to understand, and consistent with school environment and skills of teachers. In order to enable teachers to employ the Teaching Methods fully in lessons, some opportunities for practical training or observation of trial lessons need to be provided</p>
Performance (Outputs)	8		<p>2. Manual on Teacher's Guidebook development</p>	<ul style="list-style-type: none"> • Manual on Teacher's Guidebook 	<p>1. At the time of the final evaluation, the project coordinator of Institute of Education and several members of working groups strived to compile the Manual on Teacher's Guidebook Development. It will be developed by the end of the Project.</p> <p>2. MECS wants to distribute the Manual to all schools and plan to allocate budget from ADB loan for 600 copies. The Project will decide the number of copies soon.</p>

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9	The extent of achievement of Output 2 "Developed Teaching Methods are examined by Aimag/City Supervisors and teachers, so that the teaching methods are applicable in local school conditions"	1. The number of Workshops implemented by Universities, DEC, and model schools	<ul style="list-style-type: none"> The number of training and workshops regarding the Guidebooks and the Teaching Methods The type and the number of participants of the above training and workshops 	<ol style="list-style-type: none"> At the time of the final evaluation, the 15 training, meetings and workshops have been organized by the Project regarding the Guidebooks and the Teaching Methods. The project stakeholders such as members of working groups, City/Aimag supervisors, pilot teachers, principals and managers of model schools participated in these training, meetings and workshops as scheduled (See Annex 6). They acquired the knowledge and skills on the Teaching Methods and discussed how to improve the quality of the Teaching Methods and the Guidebooks. 	<ol style="list-style-type: none"> At the time of the final evaluation, the 15 training, meetings and workshops have been organized by the Project regarding the Guidebooks and the Teaching Methods. The project stakeholders such as members of working groups, City/Aimag supervisors, pilot teachers, principals and managers of model schools participated in these training, meetings and workshops as scheduled (See Annex 6). They acquired the knowledge and skills on the Teaching Methods and discussed how to improve the quality of the Teaching Methods and the Guidebooks.
10	The extent of achievement of Output 3 "The examined Teaching Methods are improved through trial lessons in model schools, so that the teaching methods are more applicable in local school conditions"	2. At least 70% of Aimag/City supervisors are satisfied with the process of the teacher's guidebooks development	<ul style="list-style-type: none"> Proportion of supervisors who responded that they were satisfied with the process of development of Guidebooks in the Questionnaire Survey Process of development of the Guidebooks by supervisors and teachers 	<ol style="list-style-type: none"> Eight (8) out of 12 supervisors who were involved in the Project in model Aimag/City (66.7%) were satisfied with the process of development of the Guidebooks. It seems that most of the Aimag/City supervisors interviewed by the final evaluation team have been satisfied with it particularly in the third year after their comments on the Guidebooks have been reflected and adopted by each working group. 	<ol style="list-style-type: none"> Eight (8) out of 12 supervisors who were involved in the Project in model Aimag/City (66.7%) were satisfied with the process of development of the Guidebooks. It seems that most of the Aimag/City supervisors interviewed by the final evaluation team have been satisfied with it particularly in the third year after their comments on the Guidebooks have been reflected and adopted by each working group.
11		1. The number of trial lessons	<ul style="list-style-type: none"> The planned and actual number of trial lessons 	<ol style="list-style-type: none"> The average executing rate of trial lessons, which is the percentage of classes conducting trial lesson as planned, was 59% (See Annex 7). In some cases, some model schools conducted trial lessons more than the plan in the second year and the third year. 	<ol style="list-style-type: none"> The average executing rate of trial lessons, which is the percentage of classes conducting trial lesson as planned, was 59% (See Annex 7). In some cases, some model schools conducted trial lessons more than the plan in the second year and the third year.
12		2. Teaching method improvement during the trial lessons	<ul style="list-style-type: none"> Changes in pilot teachers after using the Teaching Methods during lessons stated by pilot teachers in the Questionnaire Survey Case examples of changes in teaching methods of pilot teachers during the trial lessons 	<ol style="list-style-type: none"> According to the pilot teachers who responded in Questionnaire Survey, the top 5 changes of lessons after using the Teaching Methods include 1) less talking by teachers, 2) more participation by children, 3) more patience of teachers in waiting of children's reply, 4) encouraging children to express their own ideas, and 5) more linkage between lessons and real life situations. The interview with the model schools revealed that the pilot teachers have been able to pay more attention to the children with the poor grades and facilitate them to analyze why they could not answer a problem immediately. 	<ol style="list-style-type: none"> According to the pilot teachers who responded in Questionnaire Survey, the top 5 changes of lessons after using the Teaching Methods include 1) less talking by teachers, 2) more participation by children, 3) more patience of teachers in waiting of children's reply, 4) encouraging children to express their own ideas, and 5) more linkage between lessons and real life situations. The interview with the model schools revealed that the pilot teachers have been able to pay more attention to the children with the poor grades and facilitate them to analyze why they could not answer a problem immediately.
13		3. At least 85% of trial lesson teachers are satisfied with the process of the teacher's guidebooks development	<ul style="list-style-type: none"> The proportion of pilot teachers who responded that they were satisfied with development of the Guidebooks in the Questionnaire Survey Examples of comments on the draft Guidebooks collected during trial lessons Process of incorporating comments into the Guidebooks 	<ol style="list-style-type: none"> According to the Questionnaire Survey, 98 % of trial lesson teachers said that they were satisfied with development of the Teacher's Guidebooks. The trial lesson teachers interviewed by the final evaluation team stated that they acquired skills and knowledge on the Teaching Methods in the Project. Also, they fed back their comments and suggestions on the draft Teacher's Guidebooks to make them less academic and more adaptable to school environment and children's stages of development. Judging from the interview with trial lessons teachers in model schools, they seemed to be satisfied with the involvement of development of the Teacher's Guidebooks, though there was heavy workload for them. 	<ol style="list-style-type: none"> According to the Questionnaire Survey, 98 % of trial lesson teachers said that they were satisfied with development of the Teacher's Guidebooks. The trial lesson teachers interviewed by the final evaluation team stated that they acquired skills and knowledge on the Teaching Methods in the Project. Also, they fed back their comments and suggestions on the draft Teacher's Guidebooks to make them less academic and more adaptable to school environment and children's stages of development. Judging from the interview with trial lessons teachers in model schools, they seemed to be satisfied with the involvement of development of the Teacher's Guidebooks, though there was heavy workload for them.
14		1. The number of trial lesson monitored	<ul style="list-style-type: none"> The planned and actual number of trial lessons monitored 	<ol style="list-style-type: none"> The average executing rate of monitoring, which is the percentage of classes conducting monitoring during all trial lessons was 68% (See Annex 7). In the 2nd year, No. 97 School in UB City conducted monitoring more than the number of trial lessons, which indicates they conducted monitoring in other lessons. 	<ol style="list-style-type: none"> The average executing rate of monitoring, which is the percentage of classes conducting monitoring during all trial lessons was 68% (See Annex 7). In the 2nd year, No. 97 School in UB City conducted monitoring more than the number of trial lessons, which indicates they conducted monitoring in other lessons.
15	The extent of achievement of Output 4 "Monitoring model is developed and practiced to see introduction and continuous practice of the Teaching Methods"	2. Monitoring Manual	<ul style="list-style-type: none"> Monitoring Manual 	<ol style="list-style-type: none"> The monitoring working group has taken the initiative in revising the monitoring forms based on the feedback from model schools and supervisors of model Aimag/City. The Monitoring Manual is being finalized at the time of the final evaluation. The monitoring part for development of the Teacher's Guidebooks was removed from the Manual. Instead, it focuses on monitoring for improvement of lessons in the future. Its printing will be completed by the end of the Project. MECS wants to distribute the Monitoring Manual to all schools and are ready to allocate the budget from ADB loan for 600 copies. The Project will decide the number of copies soon. 	<ol style="list-style-type: none"> The monitoring working group has taken the initiative in revising the monitoring forms based on the feedback from model schools and supervisors of model Aimag/City. The Monitoring Manual is being finalized at the time of the final evaluation. The monitoring part for development of the Teacher's Guidebooks was removed from the Manual. Instead, it focuses on monitoring for improvement of lessons in the future. Its printing will be completed by the end of the Project. MECS wants to distribute the Monitoring Manual to all schools and are ready to allocate the budget from ADB loan for 600 copies. The Project will decide the number of copies soon.

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<p>Performance (Inputs from the Mongolian side)</p>	<p>16</p> <ul style="list-style-type: none"> - Assignment of counterpart personnel - Allocation of operational costs for the Project - Provision of land, building, and other necessary facilities 	<p>Actual inputs (including comparison with the description of Record of Discussion)</p>	<ul style="list-style-type: none"> - List of counterparts - Operational cost borne by the Mongolian side - Office space and facilities provided by the Mongolian side 	<p>1. Nineteen (19) people were assigned as core counterparts in the Project and 57 people were involved in the working groups for 8 subjects which consist of four Teaching Methods Improvement Centers (the Four Centers), and some teachers and managers of model schools. Twelve (12) counterparts were also involved in monitoring working group which consists of representatives from each working group and some directors and managers of model schools. Apart from these working groups, 12 supervisors of model Aimegs/City and other stakeholders of model schools were working in the Project (See Annex 4-4 and 4-5).</p> <p>2. The order of Minister of Education, Culture and Science (No.274 issued on July 20, 2007) stipulates that 165.38 million Tg is allocated for development and printing of the Teacher's Guidebooks. This also allows the DEC in model City/Aimegs to allocate 10,8448 million Tg for operational costs for working groups. Since the relevant information and data was not provided by the Mongolian side, it was not confirmed how much the Mongolian side borne the operational costs.</p> <p>3. The office space and necessary facilities have been provided for the Project.</p>
<p>Performance (Inputs from the Japanese side)</p>	<p>17</p> <ul style="list-style-type: none"> - Number and professional field of Experts - Number and professional field of Experts - Provision of equipment (list and total cost) - Number of training participants in Japan - Allocation of operational costs for the Project 	<p>Actual inputs (including comparison with the description of R/D)</p>	<ul style="list-style-type: none"> - Number of dispatched Experts and professional field - Number of dispatched Experts and professional field - List of provided equipment - List of training participants - Operational costs borne by the Japanese side 	<p>1. Twelve (12) experts in 6 professional fields such as 1)Project Manager/Education Planning, 2)Science education, 3)Arithmetic/Mathematics, 4)Integrated Learning, 5) IT Education, and 6)Project management and Monitoring were dispatched. The total man-month for experts was 51.76 (See Annex 4-1).</p> <p>2. The Project provided computers, digital cameras, digital video cameras and other equipment required for project activities. The total cost for equipment provided by the Japanese side stood at 5462 million yen (See Annex 4-3).</p> <p>3. In the first year, 8 counterparts participated in training in Japan for 6 weeks while the other 2 counterparts joined the training in Japan for 3 weeks. In the second year, the other 8 counterparts participated in training in Japan for 5 weeks (See Annex 4-2).</p> <p>4. For the various training in Mongolia, the Japanese side allocated 7,545 million yen in total (See Annex 4-3).</p>

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3-2 Process of Project Implementation

ANNEX 3-2

Evaluation Item	Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Data Needed	Study Findings
18	<ul style="list-style-type: none"> • Overall project management • Contributing and hindering factors from the operational and technical aspects 	<ul style="list-style-type: none"> • Have the project management and the technical transfer been conducted smoothly? • If they have been smoothly conducted, what are contributing factors? If not smoothly conducted, what are hindering factors? 	<ul style="list-style-type: none"> • Project management system (internal factors) • Divergence between original PDM and current activities • Changes of important assumptions and other external factors that might influence the Project 	<p>1. Overall, the Project has been smoothly implemented in which the counterparts have acquired skills and knowledge on the Teaching Methods.</p> <p>2. The main factor for such smooth implementation is the formation of 8 working groups for 8 subjects led by university teachers who have been keen interest in improvement of the Teaching Methods and had a strong sense of responsibility of development of the Guidebooks. The extent of team work slightly differed from one working group to another. However, all working groups strived to develop the Guidebooks in coordination with model schools through trial lessons and revision.</p> <p>3. Another factor is that the Japanese experts having practical expertise in the Teaching Methods, as a whole, provided technical assistance to the counterparts as expected during the entire period of the Project. Such technical assistance highly motivated the counterparts to actively participate in the project activities (See the detail in No. 24 in Annex 3-2).</p>
19	<ul style="list-style-type: none"> • Progress of activities • Contributing and hindering factors for implementation of activities • Any challenges arisen during implementation of activities 	<ul style="list-style-type: none"> • Have the activities of each output been smoothly conducted? • What are the contributing and hindering factors which might influence implementation of activities? • Are there any activities that have not been completely conducted? If not completely conducted, what is a cause? 	<ul style="list-style-type: none"> • Divergence between original Plan of Operation and current activities • Changes of inputs and important assumptions • Other internal factors such as contributing and hindering factors and countermeasures • Process of modifying activities and relevant documents describing such modification 	<p>1. Most of the planned activities have been smoothly carried out.</p> <p>2. The design or the schedule of some of the activities were flexibly changed according to circumstances. One of them is that the monitoring forms were developed and used on a trial basis instead of development of the monitoring guideline prior to trial lessons. This is because it was necessary for each working group to examine carefully which monitoring methods could be relevant for improvement of the Teaching Methods and applicable in school environment. It was decided that the monitoring manual including revised monitoring forms would be developed by the end of the Project.</p> <p>3. The formation of a monitoring working group is another activity which was added during the implementation of the Project. This monitoring working group has functioned well as expected especially after being reformed based on the recommendation of the mid-term evaluation.</p> <p>4. Also, there was a change in training and workshops regarding the Teaching Methods for model schools. The original plan in which the DECAs in modal City/Aimags were responsible for providing training and orientation to model schools was changed. Instead, the working groups and these DECAs jointly organized training, considering the fact that the DECAs have inadequate capacities as trainers of the new Teaching Methods. In addition, the training prior to trial lessons was added in response to the request from the project stakeholders. Such flexible changes in the plan were appropriate and effective in implementing the activities.</p> <p>5. The involvement of the external experts was not included in the original plan but added in order to ensure the quality of the Teacher's Guidebooks.</p>
20	<ul style="list-style-type: none"> • Monitoring mechanism 	<ul style="list-style-type: none"> • How has the monitoring activities been conducted? (including methods, frequency) • How were the results of monitoring fed back to the Project? • Is there any room for improving monitoring methods? 	<ul style="list-style-type: none"> • Whether or not any monitoring tools • Methods of monitoring, and of utilization and feedback of monitoring results 	<p>1. Monitoring has been carried out through the several means, including: i) frequent communication among the project stakeholders, ii) meetings, iii) training and workshops, and iv) Joint Coordinating Committee meetings.</p> <p>2. While the Japanese experts were away from Mongolia, they communicated with the counterparts, particularly the leaders of each working group by e-mail to confirm the progress of activities.</p> <p>3. The progress reports and the annual reports were submitted by the Japanese experts to JICA.</p>
21	<ul style="list-style-type: none"> • Response to changes of important assumptions 	<ul style="list-style-type: none"> • Were there any changes of important assumption? If there were any changes, who responded to them and how? • Were there any changes caused by external factors that were not originally described in the PDM as important assumptions? If there were such changes, who responded to them? 	<ul style="list-style-type: none"> • Changes of important assumptions and countermeasures • Whether or not there are any records, and methods of recording/reporting 	<p>1. The change in political administrations due to the election held in July 2008 caused a delay in an appointment of the vice minister of MECS. Because of this, the Project found it a bit difficult to decide when the Joint Coordinating Committee (JCC) meeting should be held. Eventually, the JCC meeting was held in December 2008 before the vice minister was newly appointed, and the previous vice minister participated in it. However, it did not affect the progress of activities.</p>

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Monitoring of progress of activities	22	<ul style="list-style-type: none"> •Preconditions 	<ul style="list-style-type: none"> •There were no preconditions to commence the Project in practice? 	<ul style="list-style-type: none"> •Project Managers' views about preconditions of the Project 	<p>1. There were no preconditions to commence the Project in practice.</p>
Communication among project stakeholders	23	<ul style="list-style-type: none"> •Communication and common understanding about problems/concerns related to the Project 	<ul style="list-style-type: none"> •Have the Experts and the C/P communicated sufficiently? •Have the Experts and the C/P had common understanding about problems/concerns related to the Project? •Have the members of each working group and the members of inter-working groups communicated sufficiently? •Have the members of each working group and the members of inter-working groups had common understanding about problems/concerns related to the Project? •Have the Project and upper-level organizations such as MECS, Institute of Education, JICA Mongolia Office, JICA Headquarter and other relevant organizations communicated sufficiently? •Have the Project and upper-level organizations such as MECS, Institute of Education, JICA Mongolia Office, JICA Headquarter and other relevant organizations had common understanding about problems/concerns related to the Project? 	<ul style="list-style-type: none"> •Whether or not there are any communication tools •Frequency of various meetings for project management and methods of recording/reporting •Views of JICA Mongolia Office, Experts and C/P 	<ol style="list-style-type: none"> The Japanese experts and the counterparts, particularly the university teachers have communicated and coordinated closely. From the beginning of the Project, they have had common understanding about the objectives and the scope of work of the Project. The working group originally consisted of university teachers of the Four Centers, Model Aimag/City supervisors of DEOs, and model school teachers. In accordance with the development of the Teacher's Guidebooks, those who were responsible for writing such as university teachers and a few of school teachers remained as the members of working groups. The other stakeholders such as Model Aimag/City supervisors collaborated with the working groups as necessary. As a whole, the members of each working group have collaborated one another to develop the Teacher's Guidebooks. After the mid-term evaluation, the monitoring working group was reformed, consisting of the representative of each working group and the managers of model schools. Since the division of work was clarified among the members, they have collaborated and actively involved in compiling the results of monitoring data, revising the monitoring forms and developing the Monitoring Manual. The interview with the project stakeholders revealed that the involvement of supervisors of UB City and Selenge Aimag has been improved through the frequent contact from the Japanese experts and members of working groups. In the case of Selenge Aimag, the personnel transfer might be a contributing factor. In DEC of UB City, the positive attitudes of supervisors towards the Project have been observed after their comments were more or less incorporated into the Guidebooks. Also, as a result of the establishment of District Education Division and assignment of new supervisors in each 9 district of UB City in 2008, the overall workload of DEC has been reduced. This has allowed the supervisors of DEC to be more involved in the project activities. Some project stakeholders noted that the model Aimag/City supervisors became more actively involved in the Project after participating in the Follow-up Training which focused on the importance of involvement of Aimag/City supervisors for dissemination of the Teaching Methods. There was not much interaction among the inter-working groups since most of activities have been undertaken by each working group on the basis of the concerned subject. In the third year, some activities such as development of the Manual on Teacher's Guidebook Development, DVD and the Monitoring Manual were effective in strengthening cooperation among the inter-working groups. It was also reported by some project stakeholders that their relationship has been strengthened by discussion and sharing of the project activities in the workshops and training organized by the Project. The Project Manager of MECS and the Project Coordinator of Institute of Education have played a role as coordinator between the Project and MECS.

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24	<p>Technical transfer</p>	<p>•Progress of technical transfer</p>	<p>•What type of knowledge and skills that should be transferred to which level of counterparts? •Have knowledge and skills that should be transferred to counterparts been changed compared to the beginning of the Project? •Have such knowledge and skills been transferred to counterparts in an appropriate manner? •How did the Experts work out to transfer knowledge and skills mentioned above?</p>	<p>•Target groups of knowledge and skills transfer, detailed information on knowledge and skills that should be transferred to counterparts •Whether or not there are any changes in knowledge and skills that should be transferred to counterparts by comparison with the original plan •Methods of transfer of knowledge and skills</p>	<p>1. Overall, the transfer of knowledge and skills has been successfully undertaken from the Japanese experts to the counterparts. 2. The Japanese experts provided the key concepts of transfer of knowledge and skills every year, i.e., lesson study (jugyou kenkyu), analyses of teaching materials (kyozai kenkyu), and child development to stimulate the counterparts' motivation for learning. 3. Many university teachers responded that they enhanced knowledge and skills of lesson study (jugyou kenkyu), analyses of teaching material (kyozai kenkyu), the Teaching Methods in each subject, and development of the Guidebooks. Particularly, they felt that the training in Japan helped the participants acquire the practical expertise on the Teaching Methods employed at schools in Japan. Those who did not participate in this training also shared what their colleagues learned in Japan and deepened their understanding of the Teaching Methods. 4. The pilot teachers of model schools have become capable of using the Teaching Methods in lessons. They spared more time to prepare the lessons. During the lessons, they came to be able to facilitate the children to analyze and learn by themselves, pay more attention to academically weak children and analyze why and in which areas those children could not answer a problem. 5. The supervisors of DEC's and non-pilot teachers, managers and principals of model schools have also gained knowledge on the Teaching Methods through the lesson analyses after trial lessons. They tended to criticize the pilot teachers during the lesson analyses after the trial lessons in the first year of the Project. However, they felt that they came to be able to analyze the trial lessons and the Teaching Methods from the various perspectives and provide constructive feedback to the pilot teachers.</p>				
25	<p>Ownership of counterpart organizations</p>	<p>•Progress of nurturing a sense of ownership among implementing agencies</p>	<p>•Extent of recognition of the Project among responsible person in MECS, Institute of Education and working groups •Extent of participation of the Project among responsible person in MECS, Institute of Education and working groups •Appropriateness of assignment of counterparts •Operational costs borne by implementing agencies</p>	<p>•Frequency of each meeting, participants of each meeting, and issues discussed •Whether or not there are any case examples that might indicate the ownership of implementing agencies has been enhanced. •Number and duty position of counterparts •Project operational costs borne by the implementing agencies</p>	<p>1. Many university teachers were aware of the importance of improvement on the Teaching Methods prior to the Project. Thus, from the beginning of the Project, most of the core members of counterparts have had a strong sense of ownership for the Project. 2. As a whole, 9 model schools have been actively involved in the project activities. 3. It was reported that the commitment of the supervisors of model City/Aimags varied. However, it seemed that the sense of ownership and responsibility among them has been enhanced to employ the Teaching Methods not only in model schools but also in non-model schools.</p>				

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3-3 Evaluation by Five Criteria

ANNEX 3-3

1. Relevance (Are the Project Purpose and the Overall Goal valid for the Project?)

Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Criteria and Methods for Judgment	Evaluation Results
Necessity of the Project	Does the Project, focusing on the development of the Teaching Methods meet the needs of target groups including MECS, Institute of Education, university teachers in education field, DEOs of model City/Aimags, model schools and children of model schools		<p>1. The four Teaching Methods Improvement Centers in the areas of elementary, science education, mathematics education, and IT education (the Four Centers) were developed in 2003 by university teachers who have been aware of the necessity of improvement of teaching methods with the support of one JICA expert. They studied various teaching methods of foreign countries including Japan to develop the appropriate ones in the context of Mongolia. In this respect, the Project has met their needs by involving them directly into the process of improvement of the new Teaching Methods and development of the Teacher's Guidebooks.</p> <p>2. In accordance with the introduction of the new Education Standards, school teachers are required to teach the new subjects such as general science and integrated learning. Also, they were encouraged to employ the child-centered teaching methods. However, the existing teacher's guidebooks were too academic for them to understand and employ the Teaching Methods. Supervisors of DECs also did not provide appropriate guidance on how to use the child-centered teaching methods in lessons including new subjects.</p> <p>The Project has exactly responded to the needs of these target groups in model City/Aimags by involving them into the process of improvement of the new Teaching Methods and development of the Teacher's Guidebooks. In other words, the tangible Teaching Methods which support children's development were developed by the Project.</p> <p>3. Prior to the Project, the children received the passive lessons focused on rote memory and hesitated to express their opinions during lessons. However, the positive changes of children towards lessons were reported by the project stakeholders and observed by the final evaluation team, though its objective data was not available. For example, they have been able to express more their own opinions and enjoy learning during lessons. Thus, it is assumed that the children of model schools have benefited from the Project.</p>
Are the Project Purpose and the Overall Goal consistent with the government's development policies and "the Master Plan of the Educational Sector"?			<p>1. The New Education Standards introduced in 2005 as an attempt of implementation of the education sector reform focuses on a shift from traditional and conventional teaching methods to children-centered teaching methods which support children's development. Thus, the Project is consistent with the education policies.</p> <p>2. The Master Plan to Develop Education Sector (2006-2015) aims to address the priority issues such as assurance of the quality of basic education and improvement on access. Since the Project also aims to improve the quality of education through the improvement of the Teaching Methods, it is in line with the Master Plan.</p>
Priority of the Project	Are the Project Purpose and the Overall Goal consistent with Japanese Government's Country Assistance Program for Mongolia and the JICA Plan for Country-specific Implementation Program?		<p>1. According to the Japanese Government's Country Assistance Program for Mongolia and the JICA's Plan for Country-specific Implementation Program, human resource development that corresponds to the market-oriented economic reform is one of the four priority areas for assistance. These programs highlight the necessity of assistance for basic education. The Project, therefore, is consistent with these Japanese aid policies.</p>

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4	<p>Are the approaches* adopted by the Project relevant as the strategies for development of the new Teaching Methods which meet the needs of schools?</p> <p>*They include selection of model schools, formation of working groups consisting of university teachers, supervisors of model City/Aimags, and model schools to develop the Teacher's Guidebooks, and the activity cycle to develop the Teacher's Guidebooks.</p>	<p>Appropriateness of strategies and approaches of the Project</p>

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2. Effectiveness (Has the target group received benefits from implementation of the Project? Has the Project Purpose been achieved or going to be achieved? Did or does the achievement of the Project Purpose result from Outputs?)

Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Criteria and Methods for Judgment	Evaluation Results
6	Have the Teacher's Guidebooks been developed?	<ul style="list-style-type: none"> • 24 Teacher's Guidebooks for 8 subjects • Assessment of Teacher's Guidebooks by sample respondents such as directors, managers, and teachers of non-model schools in model and non-model Aimag/City. <p>Assessment items includes</p> <ol style="list-style-type: none"> a) consistency with the new education standards, b) consistency with school environment, c) understandability, and d) possibility to implement the new Teaching Methods 	<p>1. Twenty four (24) Teacher's Guidebooks for 8 subjects are expected to be developed by the end of the Project as shown in Annex 3-1.</p> <p>2. It can be judged from the Questionnaire Survey that these Teacher's Guidebooks are easy to understand, and consistent with the new education standards and school environment.</p> <p>3. However, it is assumed that teachers cannot employ the Teaching Methods by reading these Teacher's Guidebooks alone. The guidance or training is needed.</p>
7	Achievement of the Project Purpose	<ul style="list-style-type: none"> • Proportion of pilot teachers in model schools who have used the new Teaching Methods in non-trial lessons • Case examples of application of the new Teaching Methods in non-trial lessons 	<p>1. As indicated in Annex 3-1, 93% of the pilot teachers responded in the Questionnaire Survey that they have applied the new Teaching Methods into lessons apart from trial lessons.</p> <p>2. The interview with supervisor of model City/Aimags and model schools revealed that the Teaching Methods have been gradually employed in other lessons except for trial lessons.</p>
8	Achievement of the Project Purpose	<ul style="list-style-type: none"> • Change of children's attitudes towards lessons stated by sample respondents in the Questionnaire Survey • Case examples of change of children's attitudes towards lessons 	<p>1. As shown in Annex 3-1, the positive changes of children in model schools have been observed and reported by the project stakeholders, though the objective data in change of children's attitude towards lessons was not available in the Project (See Annex 3-1).</p>

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9	Contribution of Outputs	Has the Project Purpose been achieved due to the effect of achievement of each Output?	<p>1. As indicated in Annex 3-1, the university teachers took the lead in developing the draft Teacher's Guidebooks. These draft Teacher's Guidebooks were revised by working groups, Model Aimag/City supervisors and model school teachers through the workshops. Trial lessons were conducted and monitored in model schools. After trial lessons, lesson analyses were undertaken in which project stakeholders discussed and analyze the Teaching Methods and the draft Teacher's Guidebooks. The comments from model schools were incorporated into the Guidebooks to be applicable in all schools. In this way, the achievement of Output 1 to Output 4 has contributed to the Project Purpose, i.e., the development of the Teacher's Guidebooks in accordance with the new education standards and the needs of teachers and schools (See Annex 3-1).</p> <p>2. Furthermore, the achievement of Output 4, i.e., the development of monitoring model has helped the Teaching Methods practiced and improved in schools.</p>
10		In order to achieve the Project Purpose, are there any Outputs that were not described in PDM but should be added in PDM?	<p>1. Except for the planned Outputs, there were no major additional Outputs that contributed to the achievement of Project Purpose.</p>
11	Influence of Important Assumptions from the Outputs to the Project Purpose	Did the Important Assumptions, i.e., "The Teaching Methods are continuously developed by the Working Group" and "Four Centers perform important roles in Teaching Methods development" influence implementation of Activities?	<p>1. The two Important Assumptions described in the PDM are not external factors but internal ones which must be dealt with by the Project since Working Groups and Four Centers are counterparts and counterpart organizations of the Project that are supposed to carry out activities within the scope of work of the Project.</p>
12		Except for the Important Assumptions, were there any external factors that have influenced the Project positively or negatively?	<p>1. There were no any influences of the Important Assumptions from the Outputs and the Project Purpose.</p>
13		What are the contributing and hindering factors that have influenced effectiveness of the Project?	<p>1. The three different actors such as university teachers, Aimag/City supervisors of DECs, and model school teachers have been directly involved in the process of development of the Teacher's Guidebooks in the Project. They could learn and collaborate one another to pursue their common goals of the development of the Teacher's Guidebooks. More specifically, the university teachers have been aware of the importance and necessity of inclusion of opinions of schools and teachers as well as model Aimag/City supervisors in the Teacher's Guidebooks to be applicable in schools in the country. University teachers have truly become something familiar to the teachers of model schools and model Aimag/City supervisors so that they could easily contact the university teachers to seek professional advice. Such collaboration of three different actors might considerably make it possible for the Project to enhance its effectiveness.</p> <p>2. The Japanese experts who have extensive experience in the field of education have continued to imparting the new skills and knowledge of the Teaching Methods from the diversified perspectives to counterparts. This has highly motivated counterparts to be involved in the Project and make the maximum use of learning opportunities in the Project (See also "Technical Transfer" in Annex 3-2).</p>

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3. Efficiency (Was input converted to efficient activities? Was the Project carried out efficiently?)

Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Criteria and Methods for Judgment	Evaluation Results
14	Achievement of Outputs	Is there a good chance that four Outputs would be achieved?	1. As described in Annex 3-1, most of Outputs have been achieved or almost achieved.
15	Were the number of experts dispatched, their special fields of expertise, and timing of dispatch appropriate?		1. Overall, the Japanese experts with relevant expertise were dispatched timely so that technical transfer in each field was smoothly undertaken. 2. There were some opinions from university teachers that the Japanese experts were sometimes dispatched during busy times for them. Consequently, they found it hard to manage the schedule. However, this seems not to affect the efficiency of the Project. 3. Although the Japanese experts in the field of science education who were responsible for several subjects stayed in Mongolia longer than other experts, the members of chemistry working group noted that one expert on chemistry should have been dispatched separately. They felt that they should have learned more deeply from the expert on chemistry if he/she had been dispatched in Mongolia. 4. Some counterparts, especially university teachers said that the frequent change in the expert on monitoring affected the smooth communication between the expert and the counterparts to some extent.
16	Efficiency of the inputs from the Japanese side in terms of quality, quantity and timing, judging from the achieved outputs	Were the type, quantity and timing of the procurement and provision of equipment appropriate?	1. The digital cameras and video cameras have been fully utilized by model schools and working groups, especially university teachers to record the trial lessons although there were some opinions that these equipment should have been provided from the 1st year of the Project. The computers were also effective in analyzing and sharing the results of monitoring by model schools and working groups. 2. Some project stakeholders opined that the more number of digital cameras and video cameras or the HDD video cameras rather than DVD cameras should have been provided by the Project. Considering the limited budget of the Project and difficulties in procurement of the same model of equipment in Mongolia at a time, the number and type of equipment provided by the Project seems to be appropriate enough to carry out the minimum activities required for development of the Teacher's Guidebooks.
17	Were the number of trainees of counterpart training in Japan, the training content and the training period appropriate?		1. According to the counterparts who participated in training in Japan, the content of training was very useful and exactly linked with the project activities to gain practical knowledge and skills of the Teaching Methods practiced at schools in Japan. The duration of training was long enough for participants, i.e. for 5 to 6 weeks in the case of 8 subjects to learn the Teaching Methods sufficiently. 2. According to the Japanese experts, the participants of the 2nd-year training in Japan had already shared what the other colleagues learned from the 1st-year training. Thus, they effectively and efficiently acquired knowledge and skills on the Teaching Methods during the training in Japan.
18	Was the size of project operational cost borne by the Japanese side appropriate?		1. The allocation of project operational costs such as various training and equipment necessary for implementation of trial lessons and development of the Teacher's Guidebooks made it possible for the Project to carry out the planned activities smoothly. 2. The transportation and accommodation costs for field trips have been borne by the Project from the 1st year in response to the request from the Mongolian side, though these costs were agreed to be borne by the Mongolian side. Also, the costs for stationary and other materials for trial lessons have been allocated by the Project to model schools and working groups since the 2nd year of the Project. They were very helpful for counterparts to undertake the planned activities. Thus, the size of operational costs allocated by the Japanese side is considered as appropriate.

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19	Were the number of counterparts, their assignment and their capabilities appropriate?		<p>1. Most of the counterparts consisting of university teachers, supervisors of model City/Aimags, teachers of model schools had a sense of ownership and responsibility of the Project so that they carried out a series of activities effectively and efficiently.</p> <p>2. Although the capacities of counterparts differed from one working group to another, the planned activities have been undertaken without any serious delay. Thus, overall assignment of counterparts can be judged as appropriate in terms of number, assignment and capacity.</p>
20	Efficiency of the inputs from the Mongolian side in terms of quality, quantity and timing, judging from the achieved outputs	Were there any problems related to the land, the buildings and facilities provided by the Mongolian side in terms of area, quality and convenience?	<p>1. There were no problems of facilities provided by MECS.</p>
21	Was the size of project operational cost borne by the Mongolian side appropriate?	Were there any activities that were not described in PDM but could contribute to the achievement of Outputs? If there were, should such activities have been additionally described in PDM?	<p>1. As indicated in No.16 of Annex 3-1, the relevant information and data was not provided by the Mongolian side. Thus, it was not confirmed how much the Mongolian side borne the operational costs.</p> <p>2. MECS has shared costs of printing of Guidebooks for 600 copies of each Guidebook with the funds from the ADB loan.</p> <p>3. The writing honoraria for the Guidebooks, the Monitoring Manual and the Manual on the Teacher's Guidebook have been or will be paid by MECS based on the discussions at the JCC meetings.</p> <p>4. Although the budget for transportation costs within the model City/Aimags to attend trial lessons of model schools was discussed several times between the Project and MECS, these costs were borne by counterparts as an individual.</p>
22	Contribution of Activities	Were there any activities that have been carried out but need to be added in PDM in order to achieve the Outputs?	<p>1. To produce the four Outputs, the sufficient number of activities have been planned, and most of them were carried out in a timely manner.</p>
23		Were the total costs of the Project appropriate compared to those of the similar projects? Were there any alternatives to implement the Project efficiently?	<p>1. All the activities have been carried out according to the PDM.</p>
24			<p>1. Since the necessary activities to produce the Outputs were included in the PDM, these activities have been carried out.</p>
25			<p>1. It is hard to compare the costs of the Project to those of the similar projects implemented by JICA since the components and the geographical areas covered by each project considerably vary.</p> <p>2. It should be noted that the counterparts took the lead in development of the Teacher's Guidebooks with the indirect support of the Japanese experts unlike most of the similar projects. Many counterparts had a sense of ownership and responsibility of the project activities from the early beginning of the Project since they had been aware of the necessity of improvement of the Teaching Methods prior to the Project. During the implementation, they could absorb knowledge and skills of the Teaching Methods efficiently from the Japanese experts and training in Japan, and immediately utilize such knowledge and skills in the process of development of the Teacher's Guidebooks and improvement of the Teaching Methods.</p>

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26	Influence of Important Assumptions from the Activities to the Outputs	Except for the Important Assumptions, were there any external factors that have influenced the Project positively or negatively?		1. There were no any external factors that influenced the achievement of Outputs.
27	What are the contributing and hindering factors that have influenced efficiency of the Project?			<ol style="list-style-type: none">1. The training in Japan was designed well to enable the participants of university teachers to learn practical skills and knowledge of the Teaching Methods employed in Japan that are really linked with the project activities. During the training, they also had opportunities to discuss with and receive technical advice from the Japanese experts of each subject. The training in Japan might be a driving force for the smooth implementation of Output 1.2. Some of model school teachers also participated in training in Japan through other projects and schemes such as "Strengthening the Planning Capacity for In-service Teacher Training Project" and "Training Program for Young Leaders". In Seleng, several project stakeholders said that they were highly impressed by one JOGV mathematic teacher and his teaching methods. These external factors seem to help the teachers of model schools apply what they learned from the training in Japan or the Japanese, which particularly might contribute to the efficient implementation of Output 4.3. The formation of 8 working groups was effective in planning and undertaking the activities efficiently.4. The translators assigned by the Project have contributed to the smooth communication between the Japanese experts and the c

4. Impacts (Has the Project generated the long-term, indirect and ripple effects? Is there a good chance that the Project would generate these impacts?)

Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Criteria and Methods for Judgment	Evaluation Results
28 Prospect of achievement of the Overall Goal and Super Goal	Is there a good chance that Overall Goal and Super Goal would be achieved? Are there a necessary system and policies for dissemination of the Teaching Methods?		<p>1. As shown in Annex 3-1, the Teacher's Guidebooks were distributed to all schools in the country. The Teaching Methods have been gradually disseminated to some of non-model schools in three modal City/Aimags in existing in-service teacher training organized by DEC's and Mongolian State University of Education. In addition, Open lessons, meetings and training were organized by the model schools in which the neighboring non-model schools were invited.</p> <p>2. Some of the supervisors of non-model Aimags became interested in the Teaching Methods, trial lessons and monitoring after participating in the Follow-up Training organized by JICA for model and non-model Aimag/City supervisors in January 2009. They requested the project stakeholders to provide more information and technical advice through training.</p> <p>3. Since DEC's are responsible for conducting in-service teacher training, they are likely to play a key role of disseminating the Teaching Methods to all schools in modal City/Aimags.</p> <p>Considering the fact that the Teaching Methods are far from the conventional ones, it seems to be difficult for teachers to acquire skills and knowledge of the Teaching Methods only by attending one or two-day existing in-service teacher training. Thus, both a concrete dissemination strategy and an effective mechanism need to be developed and strengthened by MECS in collaboration with DEC's of modal Aimags/City, the concerned universities, model schools and other relevant organizations. It is too early at the time of the final evaluation that the Overall Goal and the Super Goal would be achieved.</p>
29 Influence of Important Assumptions	Are the Important Assumption i.e., "MECS supports the Training Methods and its dissemination" and other external factors that were not described in PDM likely to influence the achievement of Overall Goals and Super Goal.		<p>1. The education sector reform will continue after completion of the Project. Other external factors such as curriculum reform, and in-service teacher training reform, and teacher and child assessment system will possibly influence the achievement of Overall Goals and Super Goal. In addition, there is a possibility that the financial crisis will influence the achievement of Overall Goals and Super Goal. It is necessary to watch the movements of reforms of related policies and systems in the education sector and the influence of the financial crisis.</p>
30 Ripple effects	Except for the Overall Goal, were there any positive effects brought about by the Project?		<p>1. The Teaching Methods were disseminated by some working group members in pre-service teacher training courses of Mongolian State University of Education and National University of Mongolia. Some students were also involved in the project activities as assistants of university teachers.</p> <p>2. In some cases, the interaction between the children of modal schools and their parents were remarkably increased at home. For example, the children came to be able to talk about what they learned from the lessons and frequently consult with parents about their homework.</p> <p>3. Since the two Project Coordinators from the MECS and the Institute of Education had worked on the MECS, several Orders of the Minister of Education, Culture and Science that expected to generate impacts of the Project. The first Order issued in November 2007 is related to a new system for performance evaluation of teachers in accordance with the new education standards. The second one issued in November 2008 defines that teachers who have been actively involved in projects related to capacity development of teachers could be exempted from credit earning through training. The third one issued in November 2008 is related to in-service training for teachers, saying if teachers and staff members at the management level are involved in projects or activities related to capacity development or improvement of teachers, they will be given a certificate of trainers of teachers.</p>
31	Were there any unexpected and negative effects brought about by the Project?		<p>1. There were no any unexpected and negative effects.</p>

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32	What are the contributing and hindering factors that have influenced or will influence the achievement of Overall Goals?		<p>1. The two Project Coordinators from the MECS and the Institute of Education were full-time thinkers and had a sense of ownership and responsibility for the improvement of Teaching Methods. They had adequate capacities to work on the minister or the vice minister of MECS to create an enabling environment in which teachers and staff members at the management level could be involved in activities related to improvement of the Teaching Methods.</p> <p>2. Since the university teachers of Mongolian State University of Education and National University of Mongolia were core members of counterparts and took the lead in project activities, the Teaching Methods could be disseminated to some extent to students who would be teachers after graduation.</p>
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5. Sustainability (Is there a good chance that the effects of the Project would be sustained after completion of the Project?)

	Evaluation Question (Main Question)	Evaluation Question (Sub Question)	Criteria and Methods for Judgment	Evaluation Results
33	Policy aspect	Are there any policies that can ensure sustainability and expansion of the effects generated by the Project? Will the policy changes of the sector of education influence the sustainability of the Project?		<p>1. There will be no major changes in the direction of the new education standards after completion of the Project, though it was being evaluated and revised by MECS at the time of the final evaluation.</p> <p>2. As mentioned in No. 30 "Ripple effects", during the project period, several Orders of the Minister that are expected to sustain the effects of the Project were issued by MECS. They include: 1) a new system for performance evaluation of teachers in accordance with the new education standards; 2) a new framework for in-service training of teachers; and 3) a new system for obtaining professional qualifications of teachers.</p>
34	Institutional aspect	Are there any institutions that can ensure sustainability and expansion of the effects generated by the Project?		<p>1. It is assumed that it takes time for teachers to acquire knowledge and skills of the new Teaching Methods since they are different from conventional ones. Attending the existing in-service teacher training including the Teaching Methods as topics seems to be not enough to impart necessary knowledge and skills of the Teaching Methods to teachers. More opportunities in which teachers can participate in trial lessons and lesson analyses should be provided by MECS in collaboration with DEC's, model schools and universities.</p> <p>2. In order to disseminate the Teaching Methods developed by the Project more widely, individual efforts of some motivated pilot teachers and some Aimag/City supervisors alone is not enough. An effective mechanism should be developed and strengthened to involve top officials and other Aimag/City supervisors who did not work in the Project in the dissemination of the Teaching Methods.</p>
35	Financial aspect	Have MECS and DEC's of model City/Aimags allocated the sufficient budget to sustain the effects of the Project? Will they be able to secure the sufficient budget to sustain the effects of the Project?		<p>1. It is assumed that model schools are likely to manage to employ the Teaching Methods in selected subjects with the scheduled budget.</p> <p>2. There are possibilities that DEC's will manage to sustain the effects of the Project by incorporating the Teaching Methods in existing in-service and other training programs. However, less than 10 % of the total budget of DEC is currently allocated for in-service teacher's training. If the trainers such as university teachers need to be invited from UB several times, the airfares might be a problem for DEC's in rural areas.</p> <p>3. If the financial crisis adversely affects MECS, it may be difficult to allocate the additional budget for promotion of the Teaching Methods. More internal efforts and closer collaboration with development partners are necessary to sustain and extend the effects and impacts of the Project.</p> <p>4. There will be also less chance that the Four Centers will be able to secure the adequate budget themselves without any external assistance for the further dissemination of the effects of the Project.</p>

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36	<p>Will the provided equipment and trained human resources be likely to be utilized effectively after completion of the Project? Will the modality and manner of operation of activities such as trial lessons, lesson analyses, and educational material analyses and monitoring adopted by the Project be likely to be effectively sustained after completion of the Project?</p>	<p>1. The university teachers will continue to work in the Four Centers or each university. It is assumed that they will be involved in further study for improvement of the Teaching Methods. In addition, some of them will be responsible for providing the skills and knowledge of the Teaching Methods to university students and school teachers during the in-service teacher's training. 2. Since supervisors of DECs are responsible for providing the in-service teacher's training, the three DECs of model City/Aimags will be able to introduce the Teaching Methods after completion of the Project. 3. The model schools have recognized the importance of improving the Teaching Methods. Thus, they are more likely to continue to employ the Teaching Methods in lessons, and conduct trial lessons, lesson analyses and monitoring as routine work. 4. The working groups have played a great role in the development of the Teacher's Guidebooks under the Project. It is not clear yet that the working groups would continue to work collectively after the completion of the Project. However, at least so far, the project stakeholders have had the strong willingness to sustain the effects of the Project regardless of continuation of working groups. Thus, there will be a possibility that project stakeholders can be involved in the development, dissemination and practice of the Teaching Methods in their own organizations.</p>
37	<p>Does the Project have a mechanism for sustaining and strengthening the skills and knowledge and skills transferred by the Japanese experts? To what extent, will MECS, university teachers, DECs and model schools of Model City/Aimags be able to utilize and sustain the skills and knowledge and skills transferred after completion of the Project?</p>	<p>1. The Manual on Teacher's Guidebook Development to be developed and published by the end of the Project will help to sustain the know-how for developing Teacher's Guidebooks. The working group members, especially the university teachers are more likely to be involved in further study for improvement of the Teaching Methods developed by the Project. In this regard, their skills and knowledge gained from the Project are more likely to be utilized and strengthened after completion of the Project. 2. The model school teachers, especially pilot teachers are more likely to continue to employ the Teaching Methods in lessons. 3. Several supervisors of DECs of model City/Aimags have gained the skills and knowledge on the Teaching Methods during the implementation of the Project. However, it is necessary to provide the skills and knowledge of the Teaching Methods to other supervisors who were not involved in the Project.</p>
38	<p>What are the contributing and hindering factors that have influenced or will influence sustainability of the Project?</p>	<p>1. The financial crisis may influence the sustainability of the Project.</p>

ANNEX 4-1. Assignment of Japanese Experts

No.	Field	Japanese Fiscal Year	1st year 2006			2nd year 2007			3rd year 2008			4th year 2009		M/M* (Man-Month)		Total	
			4	7	10	1	4	7	10	1	4	7	Working in Mongolia	Working in Japan			
1	Project Manager/Education Planning	Mr. Tetsuya Ishii	-	-	-	-	-	-	-	-	-	-	-	8.67	0.00	8.67	
2	Science Education 1	Mr. Masatoshi Saikawa	-	-	-	-	-	-	-	-	-	-	-	1.10	0.00	1.10	
3	Science Education 2	Mr. Masahiro Kamata	-	-	-	-	-	-	-	-	-	-	-	3.10	1.00	4.10	
4	Science Education 3	Mr. Akiteru Fukuchi	-	-	-	-	-	-	-	-	-	-	-	2.00	0.50	2.50	
5	Math Education	Mr. Hiroshi Takahata	-	-	-	-	-	-	-	-	-	-	-	4.20	1.00	5.20	
6	Integrated Learning 1	Mr. Shigeru Asanuma	-	-	-	-	-	-	-	-	-	-	-	3.23	0.50	3.73	
7	Integrated Learning 2	Ms. Takako Toda	-	-	-	-	-	-	-	-	-	-	-	0.67	0.50	1.17	
6	IT Education	Mr. Fumihiko Shinohara	-	-	-	-	-	-	-	-	-	-	-	3.90	1.50	5.40	
7	Project Management/Evaluation 1	Ms. Yuko Ogino	-	-	-	-	-	-	-	-	-	-	-	4.60	0.50	5.10	
8	Project Management/Evaluation 2	Ms. Atsuko Nishida	-	-	-	-	-	-	-	-	-	-	-	5.86	0.00	5.86	
9	Project Management/Evaluation 3	Ms. Makiko Masuhama	-	-	-	-	-	-	-	-	-	-	-	2.43	0.00	2.43	
10	Project Management/Evaluation 4	Ms. Sayaka Suzuki	-	-	-	-	-	-	-	-	-	-	-	6.00	0.50	6.50	
Grand Total of M/M* (as of March 2009)			— working in Mongolia		 working in Japan			—		—		6.00		0.50		51.76

ANNEX 4-2. List of Participants to Counterpart Training in Japan

■ First Year Duration of the Training: 22 October – 1 December, 2006

Duration of the Training (Mongolian and Arts & Crafts): 22 October – 11 November, 2006

	Subject	Name	Organization
1	Elementary Math.	Ms.Ochirkhuyag CHULUUNTSETSEG	Mongolian State University of Education
2	Math.	Mr. Tumurbaatar GANBAATAR	Mongolian State University of Education
3	Elementary Science	Ms. Gurdagva NERGUI	Mongolian State University of Education
4	Integrated Science	Ms. TsembeL DARJAA	National University of Mongolia
5	Chemistry	Ms. Chojjilsuren NYAMGEREL	National University of Mongolia
6	Physics	Mr. Munkhuu GANBAT	National University of Mongolia
7	IT Education	Ms. Lkhagvasuren MUNKHTUYA	Mongolian State University of Education
8	Integrated Study	Ms. Tserendorj NARANTSETSEG	Mongolian State University of Education
9	Mongolian	Ms. Khalzan MUNKHJARGAL	Mongolian State University of Education
10	Arts & Crafts	Ms. Tsendsuren CHULUUNBAT	Mongolian State University of Education

■ Second Year Duration of the Training: 8 October, 2007 – 10 November, 2006

	Subject	Name	Organization
1	Elementary Math.	Ms. Dagva ENKHTSETSEG	Mongolian State University of Education
2	Math.	Ms. Damdin SERGELEN	Secondary School No.97 Ulaanbaatar
3	Elementary Science	Ms. Erdenechuluun MUNGUNTULGA	Mongolian State University of Education
4	Integrated Science	Ms. Banzragch BURMAA	National University of Mongolia
5	Chemistry	Ms. Zundui URANSAIKHAN	Mongolia-Turkish High School

6	Physics	Ms. Bayanjargal ARIUNBAYAR	National University of Mongolia
7	IT Education	Ms. Badamjav ZOLZAYA	Mongolian State University of Education
8	Integrated Study	Ms. Batchuluun BULGAN	Mongolian State University of Education

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ANNEX4-3. List of Equipment and Cost

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	1st year 2006		2nd year 2007		3rd year 2008		Total
	Number	Amount	Number	Amount	Number	Amount	
Operational Cost for Workshops including transportation and accommodation fee (Yen)		269,000		3,161,000		4,125,000	7,545,000
Provided Materials (Total:Yen)		2,351,000		3,111,000		0	5,462,000
No.1 Software of Homepage for IT Education	3	118,000		0		0	118,000
No.2 Copy Machines	1	591,000		0		0	591,000
No.3 Computers		0	9	1,869,000		0	1,869,000
No.4 References	16	227,000		0		0	227,000
No.5 Scanner Kit	1	203,000		0		0	203,000
No.6 Digital Cameras	9	365,000		0		0	365,000
No.7 Digital Video Cameras	2	219,000	17	1,242,000		0	1,461,000
No.8 Accessories for Digital Video Cameras	3	23,000		0		0	23,000
No.9 Desktop Computers	2	322,000		0		0	322,000
No.10 Printers(color)	2	101,000		0		0	101,000
No.11 Printers (black and white)	1	16,000		0		0	16,000
No.12 Projector	1	166,000		0		0	166,000

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ANNEX 4-4. Counterparts List

Core Members

	Office	Name	Role of the Project
1	Ministry of Education	Ms. Ch. Kulanda	Project Director
2		Mr. B.Erdenechimeg	Project Manager
3		Ms. N.Nergui	Project Coordinator
4	Institute of Education	Dr. J. Narantuya	Project Coordinator
5	Elementary Education Improvement Center	Ms. Ts. Narantsetseg	Leader of Elementary Education Improvement Center
6	Science Education Improvement Center	Dr. Ts. Darjaa	Leader of Science Education Improvement Center
7	Mathematic Education Improvement Center	Mr. L. Davaajargal	Leader of Mathematics Education Improvement Center
8	IT Education Improvement Center	Mr. L. Choijoovanchig	Leader of IT Education Improvement Center
9	Department of Education and Culture (DEC) in Ulaanbaatar	Mr. D. Enkhbayar	Director of DEC, Ulaanbaatar City
10		Ms. B. Munkhjargal	Supervisor, Primary Education
11		Ms. B. Urtnasan	Supervisor, Science
12	Department of Education and Culture in Dornod Aimag	Ms. R. Dulamsuren	Director of DEC, Dornod Aimag
13		Ms. J. Bumtuya	Supervisor, Primary Education
14		Ms. Kh. Bayasgalan	Supervisor, Science
15		Mr. B. Byambakhand	Supervisor, Mathematics & IT
16	Department of Education and Culture in Selenge Aimag	Mr. D. Zagdgochoo	Director of DEC, Seleng Aimag
17		Ms. L. Suvd	Supervisor, Primary Education
18		Ms. D. Narantuya	Supervisor, Mathematics
19		Ms. D. Narantsetseg	Supervisor, Science

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	<p>Ulaanbaatar</p> <ul style="list-style-type: none"> ● No.45 School ● No.97 School ● Setgemj School <p>Selenge</p> <ul style="list-style-type: none"> ● No.1 School ● No.4 School ● Khushaat Sum School <p>Dornod</p> <ul style="list-style-type: none"> ● Khan-uul School ● No.5 School ● Matad Sum School 		<p>Model Schools</p>
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ANNEX 4-5. Working Group Members List

Elementary Math		
1	O. Chuluuntsetseg	Teacher, The Teaching Methods Improvement Center of Mathematics, The Teacher's School, Mongolian State University of Education
2	D. Enkhtsetseg	Director of the Dept. of School Affairs, The Teacher's School, Mongolian State University of Education
3	B.Gantsetseg	Elementary School Teacher, Setgemj School, UB
4	Ch.Tsogzolmaa	Vice-Principal, Khan-uul School, Dornod
5	B.Gerelgua	Teacher, No.4 School, Selenge

Math		
1	T. Ganbaatar	Researcher, The Teaching Methods Improvement Center of Mathematics, Faculty of Mathematics and Statistics, Mongolian State University of Education
2	Ch. Dalaijamts	Director, Department of Mathematics Education, National University of Mongolia
3	U. Doyod	Teacher, Department of Mathematics Education, National University of Mongolia
4	M. Itgel	Teacher, Department of Mathematics Education, National University of Mongolia
5	E. Choisuren	Teacher, Faculty of Mathematics and Statistics, Mongolian State University of Education

Integrated Science		
1	B. Burmaa	Director, The Teaching Methods Improvement Center of Science Education, National University of Mongolia
2	Ch. Darjaa	Teacher, Department of Organic Chemistry, National University of Mongolia
4	M. Altantsetseg	Teacher, Faculty of Geography, National University of Mongolia
5	G. Yumchmaa	Teacher, Faculty of Physics and Electronics, National University of Mongolia
6	B. Battsetseg	Teacher, Faculty of Biology, National University of Mongolia
7	M. Baasankhuu	Graduate student, The Teaching Methods Improvement of Science, National University of Mongolia

Physics		
1	M. Ganbat	Director, Department of Physics Education, Faculty of Physics and Electronics, National University of Mongolia
2	P. Lkhagvasuren	Teacher, Department of Physics Education, Faculty of Physics and Electronics, National University of Mongolia
3	B. Ariunbayar	Engineer, Department of Physics Education, Faculty of Physics and Electronics, National University of Mongolia
4	Ya. Munkhsaikhan	Engineer, Department of Physics Education, Faculty of Physics and Electronics, National University of Mongolia

IT Education		
1	L.. Choijoovanchig	Director, The Teaching Methods Improvement Center of IT education, Faculty of Computer IT, Mongolian State University of Education
2	L.. Munkhtuya	Teacher, Faculty of Computer IT, Mongolian State University of Education
3	D. Tsedevsuren	Teacher, Department of Programming Education, Faculty of Computer IT, Mongolian State University of Education
4	B. Zolzaya	Director, Department of Programming Education, Faculty of Computer IT, Mongolian State University of Education

Integrated Study		
1	Ts. Narantsetseg	Director, The Teaching Methods Improvement Center of elementary education, The Teacher's School, Mongolian State University of Education
2	B. Bulgan	Teacher, Department of Mongolian Education, Faculty of Mongolian Study, Mongolian State University of Education
3	Ts. Oyun	Director, Department of Mongolian Education, The Teacher's School, Mongolian State University of Education
4	Nakanishi Reiko	Japanese Teacher, Erdmiin undraa School, Bayangol district , UB
5	B. Gerel	Teacher, No.23 School, Chingeltei distrect , UB
6	Ts. Oyunsanaa	English Teacher, No. 45 School, Sukhbaatar district , UB
7	T.Munkhtuya	Teacher, No. 45 School, Sukhbaatar district , UB
8	G.Norjmaa	Teacher, No. 46 School, Sukhbaatar district , UB
9	D.Enkhtuya	Chemistry Teacher, Setgemj School, Bayangol district , UB
10	T.Erdenechimeg	Teacher, No. 97 School, Bayanzurkh district , UB
11	S.Altantuya	Mongolian Teacher, No. 98 School, Bayanzurkh district, UB
12	D.Narantuya	Geography Teacher, No.4 School, Selenge
13	V.Oyunbileg	Health and Physical Education Teacher, No.1 School, Selenge
14	D.Uuganbayar	English Teacher, Khushaat Sum School, Selenge
15	Ts.Enkhmaa	Social Worker, Matad Sum School, Dornod
16	B.Uranjargal	Teacher, No.1 School, Dornod
17	Ts.Dulmaa	Teacher, Khan-uul School, Dornod

Chemistry		
1	Ch. Nyamgerel	Teacher, Department of Organic chemistry, Faculty of Chemistry, National University of Mongolia
2	N. Oyuntsetseg	Teacher, Department of Chemical Analysis, Faculty of Chemistry, National University of Mongolia
3	Z. Uransaikhan	Chemistry Teacher, Mongol-Turkey School
4	Sh. Sainbileg	Supervisor, The Teaching Methods Improvement Center of Science, National University of Mongolia
5	P. Lkhagvasyren	Teacher, Department of Organic chemistry, Faculty of Chemistry, National University of Mongolia
6	N. Otgonbayar	Chemistry Teacher, Orchlon School
7	N. Lkhamsyren	Chemistry Teacher, No. 23 School, Sukhbaatar district, UB
8	G. Bayarmaa	Teacher, Faculty of Science,

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Elementary Science		
1	E. Munguntulga	Teacher, Department of Biology, Mongolian State University of Education
2	G. Nergui	Teacher, Department of Teaching Methods, The Teacher's School, Mongolian State University of Education
3	G.Punsalpaamuu	Teacher, Faculty of Science, Mongolian State University of Education
4	A.Byambaa	Dean, Faculty of Science, Mongolian State University of Education
5	G. Bayarchimeg	Teacher, Department of Teaching Methods, The Teacher's School, Mongolian State University of Education
6	Oyungerel	Vice Principal, No.97 School, Bayanzurkh district , UB
7	Narangerel	Vice Principal, No.4 School, Selenge

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ANNEX 5. List of the Teachers' Guidebooks developed in the Project

	Elementary Mathematics	Elementary Science	Integrated Study	Mathematics	Integrated Science	Physics	Chemistry	IT Education
1st Year (2006-2007)	For 1st Grade: "Numbers and Counting", "Figures"	For 1st-3rd Grades: "Living and non-living things", "Plants" (Humans and Environment)"	For 4th and 5th Grades	For 6th Grade: "Figures and Coordinate"	For 7th Grade: "Water and Humans"	For 7th Grade: "Electric Circuits"	For 8th Grade: "Aqueous Solution"	For 5th and 6th Grades: "Information"
2nd Year (2007-2008)	For 2nd Grade: "Numbers and Counting", "Figures"	For 3rd Grade: "Our Surroundings" (Humans and Nature)	For 7th - 9th Grades	For 7th Grade: "Geometry and Function"	For 4th Grade: "Air and Substance" (Humans and Nature)	For 8th Grade: "Electric Current", "Energy"	For 9th Grade: "Aqueous Solution"	For 7th and 8th Grades: "Information"
3rd Year (2008-2009)	For 3rd Grade: "Figures and fractions"	For 1st Grade: "Our home, Our school" (Humans and Nature)	For 8th Grade	For 8th Grade: "Squares"	For 6th Grade: "Air"	For 9th Grade: "Electric energy"	For 9th Grade: "Fuel and coals"	For 9th Grade: "Information"

※At the time of Final Evaluation, the 3rd-year guidebooks are being finalized. By the end of the Project, they will be completely developed.

ANNEX 6. List of training and meetings conducted by the Project

	Title	Date	Number of participants										Remarks
			MECS	Institute of Education	University Teachers (Elementary Education, Science Education, Mathematics Education, and IT Education Improvement Centers)	Model Schools	DEC of UB City, Selenge Aimag, and Dornod Aimag including supervisors	Other	Total				
1st Year	1 1st year Teacher's Guidebook Development Workshop	21-23 June, 2006	2	1	13	15	4	0	35				
	2 Training on the 1st Year Teacher's Guidebook	18-20 Dec, 2006	2	1	—*	51	—*	—*	137				
	3 Monitoring Training	21-22 Dec, 2006	2	1	—*	51	—*	—*	137				
2nd Year	4 Meeting to Review the 1st Year Teachers' Guidebooks	5 May, 2007	0	0	16	44	2	0	60				
	5 2nd year Teacher's Guidebook Development Workshop	10-12 May, 2007	1	0	24	30	8	40	103				
	6 Training for the Teaching Method Improvement (Training on the 2nd Year Teacher's Guidebook)	17-21 Dec, 2007	1	1	25	90-99	11	—*	172		2 external experts who examine the draft Guidebooks attended it.		
	7 Training before Trial Lessons in UB City	15-16 Feb, 2008	0	0	—*	—*	0	—*	Approximately 50				
	8 Training before Trial Lessons in Selenge Aimag	19-23 Feb, 2008	0	0	8	30	—*	—*	Approximately 110				
	9 Training before Trial Lessons in Dornod Aimag	18-22 Feb, 2008	0	0	8	30	—*	—*	Approximately 80				
3rd Year	10 Meeting to Review the 2nd Year Teachers' Guidebooks	22 May, 2008	2	0	27	90	7	1	127			1	
	11 3rd year Teacher's Guidebook Development Workshop	23-24 May, 2008	0	1	24	90	8	15	138				
	12 Training on the 3rd Year Teacher's Guidebook	11-13 Sep, 2008	1	1	24	99	11	0	136				
	13 Training before Trial Lessons in UB City	24-25 Oct, 2008	0	0	27	6	2	6	41		6 people from non-model schools were also present.		
	14 Training before Trial Lessons in Selenge Aimag	28-31 Oct, 2008	0	0	8	—*	—*	—*	55		Non-model schools including No.2, No.3, No.5, No.6 Schools were also present.		
15 Training before Trial Lessons in Dornod Aimag	27-30 Oct, 2008	0	0	8	41	2	114	175		12 people from Dornod University and 112 people from non-model schools were also present.			

Note: —* indicates that the number of participants was unclear.

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ANNEX 7. Average executing rate of trial lessons and monitoring

	Trial Lessons			Monitoring		
	Total number of classes for trial lessons	Number and percentage of classes that conducted trial lessons as planned	Number and percentage of classes that conducted trial lessons as planned	Number and percentage of classes that conducted monitoring during all trial lessons	Number and percentage of classes that not conducted monitoring during all trial lessons	NA
1st year:	24	17 (71%)	7 (29%)	18 (75%)	8 (28%)	0
2nd year:	70	47 (67%)	15 (21%)	47 (67%)	19 (27%)	4
3rd year:	70	48 (70%)	19 (27%)	46 (66%)	22 (31%)	2
Total Number/Average Percentage	164	113 (69%)	41 (25%)	111 (68%)	47 (29%)	8

The number of plans and actual achievement of trial lessons and monitoring

	Model Schools	Physics			Chemistry			Elementary Science			General Science			Arithmetic			Mathematics			V Education			Integrated Learning		
		Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring	Plan	Trial Lessons	Monitoring
1st year	No.45 School	10	9	5	12	12	10	7	7	7	12	12	6	10	9	7	18	14	7	8Q:6	8	8	4G:5-6	5	5
	No.87 School	10	10	10	11	11	11	9	9	9	18	18	18	9	9	9	18	18	18	5Q:7	7	7	5Q:5-8	5	5
	Setgenji School	10	8	5	12	12	12	7	7	7	18	15	15	9	5	5	18	18	18	5Q:7	7	7	4Q:5	5	5
2nd year	No.45 School	8	8	8	8	8	8	8	8	8	10	10	5	7	6	4	24	12	12	7Q:5	5	5	4	4	4
	No.87 School	10	10	10	8	9	9	8	8	8	10	10	14	10	10	10	24	24	24	7Q:5	5	5	4	4	4
	Setgenji School	8	8	8	8	8	8	8	8	8	10	10	10	7	5	6	24	16	16	7Q:5	5	5	4	4	4
3rd year	No.1 School	10	9	9	8	8	8	8	8	8	10	10	7	7	7	4	24	7	7	7Q:5	5	5	4	4	4
	No.4 School	10	10	5	8	8	4	8	NA	NA	10	10	8	7	6	5	24	NA	21	7Q:5	5	3	4	NA	NA
	Kluheast Sum School	10	8	6	8	8	5	8	5	3	10	11	8	7	7	4	0	0	0	7G:6	5	3	4	NA	3
Domod	No.5 School	10	7	7	9	8	8	9	6	8	10	8	8	7	7	7	18	18	18	7Q:5	5	5	5-6	4	4
	Kluheast Sum School	8	8	8	8	8	8	8	8	8	10	10	10	7	7	7	24	24	24	7Q:5	5	5	4	4	4
	Mataid Sum School	9	9	9	9	NA	3	9	NA	3	10	NA	NA	7	7	4	-	-	-	7Q:5	NA	NA	8	4	4
Uluabeser	No.45 School	8	8	4	7	7	7	8	6	8	6	8	3	10	10	9	12	10	10	8	5	5	8	8	4
	No.87 School	8	8x2*	8x2*	7	7	7	6	4	4	8	9	9	9	10	10	12	16	16	8	8	8	8	8	8
	Setgenji School	8	8	4	7	6	5	6	4	4	8	5	5	9	10	8	12	12	12	6	6	5	8	8	8
Seleng	No.1 School	8	8	3	7	8	8	6	4	4	8	7	8	9	8	8	12	12	12	8	8	4	8	8	4
	No.4 School	8	3	2	7	7	7	10	6	4	8	8	8	9	10	6	12	4	4	6	3	3	8	4	2
	Kluheast Sum School	8	8	4	7	7	8	8	6	4	8	NA	8	10	7	5	-	-	-	8	8	8	8	NA	4
Domod	No.5 School	8	8	6	7	7	7	8	8	8	8	8	8	6	8	8	12	12	12	6	8	8	8	8	8
	Kluheast Sum School	10	10	10	7	7	7	6	6	6	8	8	8	10	10	10	12	12	12	6	8	8	8	8	8
	Mataid Sum School	-	-	-	7	7	7	6	6	6	8	7	7	10	10	10	8	8	8	6	8	8	8	8	8

Note: 1- Plan indicates the number of plans submitted by model schools prior to trial lessons.
 2- Trial lessons indicate the number of actual achievement.
 3- Monitoring indicates the number of actual achievement.
 4- NA: Not Available, G: Grade